

6. POSTER PRESENTATIONS: ABSTRACTS

Thursday 26 November, 14:10–15:40

Poster Session 1: Health care and health systems

High patient satisfaction does not mean high quality of care, qualitative research, Armenia

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Background

The quality of care in Armenia (a country in transition) has declined after the collapse of Soviet Union. However, the level of reported patient satisfaction is high. The purpose of this study was to explain the reasons for high patient satisfaction given the low quality of health care services.

Methods

A qualitative descriptive study was conducted. The in-depth interview guide was developed, pre-tested and revised accordingly. Twenty-five in-depth interviews were conducted with women who had had a delivery within the last 2 months by trained interviewers. The transcripts were analysed by hand with the pre-developed coding system.

Results

The study showed that factors leading to over-reporting of satisfaction include fear of being deprived of the services, avoiding potential conflicts with providers, close relationships with community members that include providers, and lack of trust of outsiders who conduct surveys. Moreover, the study found that perceptions and expectations of quality of health care services are quite low.

Conclusion

Measures of patient satisfaction are not always the best 'marker' for quality of care; thus the health care policy makers should interpret patient satisfaction findings with caution.

Patients' perceptions on continuity of care: meta-synthesis of qualitative studies

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Background

Rapid advances and shifts in care settings mean that patients see an ever-expanding array of providers. Due to this tendency of fragmenting healthcare services, continuity of care (CC)—defined as experienced care by a single patient—has been garnering increased attention in the last few years. Only quantitative reviews have summarized the evidences of published articles so far. Thus, the purpose is to conduct a descriptive meta-synthesis of original, qualitative studies that investigated the patients' perspectives on CC across different healthcare settings.

Methods

The systematic review bases on an exhaustive literature research in diverse electronic databases, using the general subject heading 'continuity of care'. The aggregation of findings and the identification of themes were techniques used in the data analysis. The following items guided the review: (i) design of the study, study population, sampling method, characteristics of the setting; (ii) type of CC addressed; (iii) studies' results according to different types.

Results

Twenty-five journal articles published from 1999 through 2009 were kept for the final analysis; 13 were focused on chronic conditions. The common data collection techniques were in-depth interviews and focus groups. Researches spanned

the continuum of healthcare (primary, secondary, etc.). The review revealed that patients conceived three types of CC as key mechanisms for bridging separate care events, and thus facilitating the progress of treatment: Relational continuity, the most frequently type investigated (consistency in personal mentioned among vulnerable patients), informational continuity (physicians' knowledge about their values, preferences and disease history; a consistent exchange of information with other healthcare providers, which was highlighted by patients with chronic conditions), as well as management continuity (successful transition and discharge management stated particularly by elderly). Some patients evidenced poor continuity and perceived information technology necessary to facilitate CC.

Conclusion

The types of continuity vary in importance and were strongly influenced by personal factors like health condition and the setting of care. This finding should be considered in future investigations to improve CC.

Patients' experience on complaint handling; a comparison between Complaint Committees and Disciplinary Boards

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Background

Handling patient complaints about health care issues is important. However, many patients who lodge a complaint are dissatisfied with the way their complaints are dealt with. In the Netherlands, there are two institutions to lodge a complaint: the Complaints Committee and the Disciplinary board. The complaints committee is characterized by its accessibility and makes suggestions for improvements in health care organizations, the Disciplinary Board is characterized by its high status and issues a verdict on the accused health care professional. The aim of this study is to compare these two procedures from the patient perspective and examine what kind of procedure is more satisfying for patients.

Methods

To compare these two procedures, a questionnaire survey was distributed by five disciplinary boards and 65 complaint committees; 1185 patients who lodged a complaint received a questionnaire. In total, 460 completed the questionnaire about their experiences after the complaints procedures (response 39%).

Results

Our preliminary results demonstrate that there is no difference in patients' satisfaction with the procedure itself between the disciplinary boards and complaints committees (75 vs. 75%). However, lodging a complaint at a disciplinary board leads to more patients' being satisfied with the outcome of the verdict (56 vs. 46%). It shows that patients who lodged a complaint at a disciplinary board say more often that justice has been done (52 vs. 43%). Patients who lodged a complaint at a complaints committee say more often that the organization made improvements due to the verdict (24 vs. 11%).

Conclusion

Surprisingly, the more formal procedure of complaint handling, that is the procedure of the disciplinary board, resulted in more patients' that feel justice has been done.

complaints committees, the less formal procedure, seem to contribute more to improving health care. In the presentation, we will explain the underlying factors of our findings.

ABC Project—European initiative to improve patient compliance with medication

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Objectives

Medication non-compliance is highly prevalent across all conditions, and represents a major barrier for realizing the benefits of evidence-based therapies. A major surprise has been the finding that life-threatening diseases do not, *ipso facto*, enforce strict execution of prescribed regimens. Despite several decades of scientific research, effective policies to address medication non-compliance are still lacking, at both national and European levels. Therefore, a number of European experts have gathered to design the ABC project, which aims to produce evidence-based policy recommendations for improving patient compliance and thus more effective use of medications by Europeans.

Methods and results

The project intends to cover several crucial aspects of patient non-compliance. First, it will reach a consensus on terminology and taxonomy of non-compliance, in order to enable reliable comparison of clinical trials' results and effective benchmarking of compliance-enhancing interventions. The determinants of patient compliance will be identified by a systematic review of the available literature, and a survey across European countries, followed by the conduct of an aptly designed experiment. Current practices of compliance management by healthcare professionals and the pharmaceutical industry will be assessed, as well as educational programs in schools of medicine and pharmacy. Compliance-enhancing interventions will be compared in terms of practicality, clinical- and cost-effectiveness.

Conclusion

The ABC Project is a newly begun European initiative to produce policy recommendations on strategies to improve patient compliance with prescribed therapies. The Project's findings may help health policymakers to take right decisions in order to minimize the negative impact of non-compliance.

Funding

7th Framework Programme of European Union.

Patient mobility and cross-border care in Italy: problems and options

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Background

After the growth of the European Union and progressive improvements in the health sector itself, the extent and complexity of patient mobility (PM) are increased. PM in Italy is a critical issue, both in terms of inflow and outflow of patients. A higher number of Italian citizens seek healthcare abroad compared with the other EU countries. This paper aims to provide an overview of PM experience in Italy and to discuss the push and pull factors influencing this experience.

Methods

Data of flows collected by the Ministry of Health (years 1999–2005)—regarding the category of patients who deliberately seek healthcare abroad—are analysed in order to quantify the prior authorization requests of reimbursement called 'E112'.

Active mobility of patients is investigated. Data obtained are stratified by region of origin, destination and the rate (per 100 000 inhabitants) are calculated. Furthermore a qualitative policy analysis on PM on the basis of existing literature and perceptions of key health-informants through semi-structured interviews is performed.

Results

In the study period the outflow for 'E112' regards 98 981 people. The majority of them is from Lombardy, Campania and Valle d'Aosta (>30 inhabitants per 100 000), followed by Trentino and Sicily (>20 inhabitants per 100 000) and other southern regions (>10 per 100 000). The outflow from the North of Italy is mainly directed to Switzerland, while the flow from the South reaches France, Germany and Belgium. The geographical contiguity of border regions in North and the dissatisfaction with local healthcare services in the South are the major factors in encouraging people to outflow.

Lessons

The phenomenon of PM in Italy is highly dependent from regional decentralization of Italian health system; Italian regions are very different in terms of quality of healthcare offered. Further studies need to be undertaken to understand the phenomenon in depth, followed by a series of country-specific policy measures.

Combining General Practice Registry Data to estimate the public health impact of COPD in the Netherlands

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Chronic obstructive pulmonary disease (COPD) is an important and growing cause of morbidity and mortality. The objective of this work is to derive COPD related measures of life and health expectancy in the Netherlands. These are based on incidence (I), prevalence (P) and mortality associated with COPD (M). In many countries the latter information is not available or has to be collected from several sources with differing disease definitions. The Netherlands have the advantage of a high-quality, general practice database (GP) from which we extract information on I and P. M is estimated by using relative risks (RR) of dying from COPD based on the British General Practice Research Database (GPRD).

We first use logistic and poisson regression models to describe Dutch GP data by age and sex, accounting for random effects of different registries within the database. We then calculate mortality for those with and without COPD based on RRs from the GPRD and P from Dutch GP data, which in turn allows for estimates of life expectancy for those with and without COPD. By means of multi-state life table techniques and additional incorporation of GP incidence data we then also compute the number of years Dutch men and women of age 40 years, on average will spend with and without COPD. In addition to obtaining a set of epidemiological IPM data on COPD we also show its public health impact which is likely to worsen due to population aging and past smoking trends. Our multi-state life table analysis demonstrates that currently out of their remaining life expectancy at age 40 men are expected to spend about 36 years without COPD and 1.6 years with COPD. Results for women are 40 and 1.8 years, respectively. Life expectancy among those with and without COPD differs by 15 years for both sexes.

Defining sustainable practice in community-based health promotion: A Delphi study of practitioner perspectives in Australia

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Background

Sustainability represents a crucial disciplinary issue in community-based health promotion practice. The literature on sustainability in health promotion, including efforts to define sustainability, has focused upon sustainability at the project and program levels. The present study was oriented upon understanding practitioners' perspectives of sustainability in community-based health promotion at the level of practice. In other words, the practices that are the actual doing of health promotion at the community level that make it work. The purpose of the present article is to report findings of the research relating to defining sustainable practice.

Methods

The Delphi method using email was implemented to examine this topic by developing shared understanding of sustainable practice and related issues amongst health promotion practitioners in Queensland, Australia. The Delphi method was appropriate given the shortage of research on the topic and the need to engage with a geographically diverse practitioner population.

Results

The Delphi process has enabled a definition of sustainable practice to be collaboratively developed with the practitioners. The definition incorporates the five components of: collaboratively progressing; community health determinants; community health aspirations; processes; and outcomes. Furthermore, it was possible to agree the key features of sustainable practice as relating to relationships and partnerships; decision making and practice; building community capacity; and context for practice.

Conclusions

In facilitating our understanding of what constitutes sustainable practice, the present project will assist us to more effectively plan and implement community based health promotion.

Feasibility of opiates substitution in the general practice- the case of Antwerp, Belgium

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Background

In 2006, a survey was done in 158 pharmacists in the city of Antwerp (56.8% of all pharmacists). Only 11% reported that they never delivered any opiate substitution; 64% provided a substitution product at least for one patient in the last month, and 78% in the last year. In general, attitudes towards distribution of substitutes in the pharmacy are positive. Little is known on the attitudes and beliefs of general practitioners (GPs) in Antwerp towards the feasibility of substitution treatment in the general practice.

Methods

To obtain information on the attitudes and opinions of the GP's, the qualitative methods of interviews and Focus Group Discussions—FGD were used. GPs were recruited in the region of Antwerp-city. The topics in the FGD were: general characteristics of an opiate using patient, the different aspects of substitution treatment, the legislation and the benefits, harms and conditions for opiates substitution in a general practice for patient, GP and other (non-user) patients.

Results

Three FGD were held with 13 GPs without experience in opiate substitution. Two FGD and two interviews were done in 13 physicians with experience. Experiences reported by the GPs varied from one to 300 patients the past 3 years. First results show some difficulties that the GPs report when treating opiate users: few knowledge and experience in prescribing substitution for opiate users, fear for troubles in the general practice, an unclear overview of the legislation for the registration of drug users in treatment and a lack of communication and collaboration between GPs and specialized treatment centres for drug abuse. Reported difficulties and solutions will be discussed in 10 stakeholders by means of interviews with policy makers, the managers of three specialized treatment centres for drug abuse in Antwerp, the Antwerp pharmacy association and an Antwerp crisis unit for drug misuse.

Expenditure, availability and dental health—an ecological study

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Background

Compared with some neighbouring countries, dental health among 12-year-olds (internationally used indicator group) has not improved at the expected extent in Norway. As a nation, Norway uses large resources on providing free dental services to children under the age of 18. In this ecological study we examined whether there is any association between resources spent and dental health status among 12-year-olds in the 19 Norwegian counties.

Methods

The key figures in KOSTRA (Municipality-State-Reporting) provide information on most of the municipal and county municipal activities. Data on expenditure on dental health and number of dental personnel were collected for the years 2005, 2006, 2007 and 2008. DMFT-status [Diseased, Missing or Filled (permanent) Teeth] for 12-year-olds was acquired from Statistics Norway. The expenditure and availability indicators analysed on a county level included Net dental health expenditure per inhabitant, Patients per full-time equivalent dentist, Full-time dentists per 1000 inhabitants, Patients examined/treated per dentist, and the indicators for the dental health of the 12-year-old indicator group, namely average DMFT and percentage with DMFT=0, for the same years. Analysis was performed using STATA version 10.

Results

Preliminary analysis shows that counties with high per capita net expenditure on dental health were also counties where the average DMFT-score for 12-year-olds was high, whereas expenditure was lower in counties with better dental health among 12-year-olds (somersd, $P < 0.000$). In counties where more patients were treated per dentist, dental health among 12-year-olds was better (somersd, $P = 0.02$). However, there was no correlation between patients per available dentist or dentists per 1000 inhabitants and the dental health status of the 12-year-olds.

Conclusions

Higher public expenditure on dental health was not associated with better dental health among 12-year-olds. The relationship between costs and dental status needs more factors to give a fuller picture of the conditions, and we try to speculate on some possible elements of the totality.

Inappropriate emergency department (ED) use: physician point of view and patients outcomes. A study in four emergency departments in France

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Objective

To assess the appropriateness of ED admissions, based on the senior physician justification and to identify factors associated to inappropriate ED admissions.

Methods

Between September 2003 and June 2004, a cross-sectional study was carried out in four ED of public reference hospitals in Upper Normandy region (France). Inclusion criteria were patients 18 years old or older, volunteers and very low vital risk (without emergency procedures). For each patient, the outcomes collected were medical consumption during the last 6 months, socio-economic characteristics, referred to ED by a general practitioner (GP, diagnosis and care in ED, visit appropriateness according to ED senior physician point of view. The sensitivity and the specificity of being referred by a GP or being self-referred were estimated, the senior ED physician point of view was considered as appropriate or not visit.

Results

A total of 485 patients were included. The mean age was 43.4 years [standard deviation (SD)=18.9]; 307 patients (63.3%) were self-referred; 243 senior physicians assessed the visit as appropriate, 227 as inappropriate and 15 seniors were without opinion (excluded from the analysis). After adjustment (logistic regression), the patients whose visits were judged as inappropriate were self-referred (AOR 1.78, 95% CI 1.08–2.94, $P=0.02$), already done a visit to the ED in the last 6 months (AOR 2.31, 95% CI 1.36–3.91, $P=0.002$) and without hospitalization after ED visit (AOR 12.82, 95% CI 6.23–26.37, $P<10^{-4}$). The specificity of the referred status was 76.7%, and the sensitivity 48.6%. The positive predictive value was 69.0%.

Conclusion

In the context of an increasing number of patient admissions to the EDs in France, inappropriate use was characterized mainly by iterative recourse to ED for consultation. Our study shows that an emergency department adaptation, such as triage and ambulatory consultation, could be a solution to overcrowding. The availability of primary health care at the ED, providing continuity of care outside, might be evaluated.

Practice accreditation in ambulatory care – an international comparison

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Background

Practice accreditation is widely used as a means to promote quality, safety and efficiency in patient care. 'Stiftung Praxissiegel e. V.' as one German non-profit practice accreditation organization commissioned an expertise to compare its own 'European Practice Assessment'-based accreditation programme on an international level. Subject matter was the actual process and contents of accreditation, especially the involvement of patient surveys.

Methods

Nine accreditation programmes from Germany, Switzerland, UK, Netherlands, USA and Australia were identified and analysed. A selective review of each accreditation organizations' website and published key documents was conducted from October 2008 to March 2009. The content of the identified documents was analysed and the findings were contrasted.

Results

The accreditation programmes show marked similarities in the development of accreditation standards (consensus process, sometimes pilot testing, rare structured assessment of quality indicators) and the process of accreditation (self-assessment and an audit including document review). Five programmes use structured patient surveys. One programme highlights the aspect of consultation during the whole accreditation process. In some countries uniform data collection and evaluation software is available and implemented on a national basis. Two programmes use a modular design, in which the modules either complement one another in contents or consecutively lead to a higher quality level being accredited. Clinical indicators are integral part of three programmes. Two programmes combine accreditation with national pay-for-performance (P4P) programmes.

Conclusions

Practice accreditation, which integrates self-assessment, peer-based advisory audit including document review and structured patient survey appear to be a high international standard. The analysed international approaches suggest that German practice accreditation programmes could improve by using uniform software and a modular design as well as by integrating clinical indicators and combining accreditation with P4P programmes.

Seasonality and periodicities of inside and outside hospital daily mortality (1998–2004) in Portugal Mainland

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Introduction

In the last years several studies tried to find and explain variations in inside hospital mortality. The aim of this study was to describe and compare the seasonal and periodical patterns of inside and outside hospital daily mortality (1998–2004) and possible needs of research.

Material and methods

Daily inside and outside hospital mortality (1998–2004) data was used. Fourier spectral decomposition analysis was performed to determine periodicities and the Priestley test was used to evaluate their significance.

Results

The analysis showed that inside and outside hospital mortalities are both strongly seasonal (365 days), revealing also the presence of 6-month periodicities (182.5 days). The seasonal/yearly pattern was associated with the highest mortality values in winter. Six-month periodicity corresponded to secondary increase of mortality (inside and outside the hospital) both in winter and summer. Two challenging long periodicities (639 and 284 days) were found in total mortality; however they were not found simultaneously in inside and outside hospital mortalities. The 284 periodicity was disclosed in outside mortality. Finally, weekly periodicities (7 days) were found in both inside and outside hospital mortalities. However they had different patterns: in the outside hospital mortality it had peaks during the weekend (Saturday and Sunday); in inside hospital mortality it had peak values in mid-week (Wednesday and Thursday) with lowest values on the weekends.

Discussion and conclusion

It was shown that inside and outside hospital mortalities in Portugal Mainland have very similar seasonal patterns only differing in the weekly pattern, having opposite behaviours. This is noteworthy because a weekly pattern was not observed in total mortality. Some long periodicities which were not immediately explainable were revealed in this work. Additional research is required to improve the understanding and causes

of these phenomena. The use of longer time series data might help reaching this.

Effectiveness of rehabilitation: who benefits most?

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Introduction

Rehabilitation, defined as a combination of methods that are focused at restoring the useful life of patients, is an increasingly important aspect of tertiary prevention due to widespread chronic disease associated with high costs. It is significant to measure the effect of rehabilitation programmes in improving clinical outcome and resource allocation.

Aim

To assess and compare the effectiveness of physical rehabilitation programmes in neurological and orthopaedic patients.

Materials and methods

The study, conducted in the intensive rehabilitation hospital of the Local Health Unit 2, Umbria Region, Italy (January 2006 to June 2008), investigated the degree of disability of 336 inpatients admitted for neurological or orthopaedic diseases, by means of the Functional Independence Measure (FIM), a widely used tool for functional assessment, administered on admission and at discharge. FIM consists of 18 items with two subscales: motor (scored 13–91) and cognitive (scored 5–35). The subscales are summarized in an overall score ranging from 18 (unable to do a stated activity) to 126 (independent). The pair *t* test was used to assess differences in overall and subscales scores between admission and discharge in the two types of patient.

Results

Mean age was 68.9 years, 52.8% were females. 70.2% were neurological patients. Overall FIM score improved from 58.5 (SD 24.9) to 78.9 (SD 26.6) ($P < 0.001$) in neurological patients and from 83.8 (SD 18.6) to 99.5 (SD 19.1) ($P < 0.001$) in orthopaedic patients. In neurological patients the motor subscale score changed from 33.3 to 51.7 and the cognitive one from 25.4 to 27.7 ($P < 0.001$). In orthopaedic patients the motor subscale score changed from 51.2 to 67.6 ($P < 0.001$) and the cognitive one from 32.4 to 32.6 ($P = 0.371$).

Conclusions

The rehabilitation programme improved the overall conditions of neurological and orthopaedic patients. It did not seem to have any effect on the cognitive score on orthopaedic patients, who already had a high score at baseline. However, these results should be further investigated, considering the cost of care for the two types of patient.

Comparing home care across Europe—The EURHOMAP-project

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Background

Home care can be an answer to trends of growing demand and changing preferences in health and social care in European countries. The question is to what extent home care in Europe is prepared to cope with these changes. The EU funded EURHOMAP-study aims to fill the information gap on home care in 32 European countries.

Methods

A systematic literature review and consultations with experts across Europe resulted in a set of consensus-based indicators. Major topics are: provision, financing, allocation of

resources and regulation. In 2008–09, data was collected in 32 countries by a consortium of experts from these countries. Furthermore, to enhance comparability, a panel of key informants in each country answered standard questions related to hypothetical case descriptions about people in need of care.

Results

The results will be presented for a number of countries, which form a contrast in their organization and structure of home care. Models of provision, financing, allocation of resources and regulation and the identified problems and trends in home care will be presented.

Conclusions

This study has shown that the level of development of home care, and the way it is provided, is related to features of the system of health care and social care, to general societal trends and traditions in countries.

Torino 2006 Winter Olympic Games: highlight on health services organization

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Issue/problem

Mass gatherings require a higher attention towards planning and execution of the dedicated medical care and represent an important challenge for public health.

Description of the problem

The aims are to describe the organization and provision of medical care in Torino 2006 Winter Olympic Games, along with the epidemiology of illnesses and injuries among athletes during this event. The design is a retrospective study, with review of medical records at Olympic medical facilities. All the athletes who attended any medical structure were eligible. The main outcomes include: type of injuries and illnesses affecting athletes; incidence of injuries and illnesses by provenance and discipline; rate of hospital admissions.

Results (effects/changes)

The health care organization (TOROC's Medical Service) integrated 18 new Medical Centers operating at Olympic venues, three new Polyclinics inside the Olympic Villages and 13 pre-existing Hospitals. During the 34 Olympic operational days, 2607 athletes participated to the competitions, 330 athletes received medical care and 676 medical encounters forms were documented, with an overall medical utilization rate (MUR) of 12.66%. The medical attendance of African athletes was notably higher with respect to athletes coming from other continents ($P < 0.001$). Skeleton, snowboard, bobsleigh, alpine and freestyle skiing had the highest medical attendance rate with respect to other disciplines ($P < 0.001$). The majority of injuries and illnesses involved the musculo-skeletal system and were of a minor nature. A total of 23 visits turned in hospital admissions (3.4%).

Lessons

This model for medical coverage, integrating a new public health network with an external pre-existing structure and an adequate staff, appeared to be efficient and practical. Such organization could be recommended for future events, but only in contests where a pre-existing public system could partially undertake the patients' needs. The risk of severe injury and illness appeared to be low. These data could be useful for planning medical services for future mass gatherings.

Organizational culture in integrated healthcare organizations

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Background

Organizational culture is one of the factors that influences the coordination of care in an integrated healthcare organization (IHO). Culture is defined as the pattern of basic assumptions that a group has learned to solve problems of external adaptation and internal integration, which had worked well enough to be deemed valid and transmitted to new members. The integration is strengthened by the existence of a common culture aligned with the IHO's mission and objectives. Culture can be evaluated, among others, with group members' values in different situations. The objective is to analyse factors of organizational culture in the IHO that could influence the healthcare coordination.

Methods

A qualitative and descriptive case study was carried out in 6 IHO in Catalonia using semi-structured individual interviews. A two-stage criterion sample was designed. In stage I, 6 IHO

were selected, in stage II, 37 managers and 23 professionals. Interviews were recorded and transcribed. A narrative content analysis was conducted with a mixed generation of categories and segmentation by IHO, informants and themes.

Results

Informants agree about their organization's mission and highlight factors in respect to coordination, although hardly any informant can define its mission. In some cases, interviewees highlight coordination among care levels, and one person stresses patient-centred care. Managers know the organizations' general objectives better than professionals. Managers of some organizations underline the work coordinated among care levels or the improvement of coordination among providers with different entitlements regarding organizational objectives; while professionals emphasize their care level objectives. Informants focus on objectives proposed by health service purchaser instead of organizational objectives. In the majority of cases, professionals perceive that objectives are imposed, and in some cases, they reject its connection with economic incentives.

Conclusions

Most of the professionals are not aware of their organizational mission and coordination objectives. This condition indicates some difficulties in communicating organizational strategies to align the culture which would improve healthcare coordination.

Funding

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Poster Session 2: Pregnancy, perinatal care and infant health

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Background

Prospective cohort study design allow for the reliable verification of exposure during pregnancy period.

Aim

The study concentrate on the identification and evaluation of the effects of prenatal environmental exposure on pregnancy outcome and children's health.

Methods

Polish Mother and Child cohort study is the prospective population-cohort study conduct in eight different regions of Poland. Whole cohort of 1300 mothers-child pairs will be established within 3 years period (2007-10). The recruitment and all scheduled visits are conducted in maternity unit or clinics in participated in the study districts. We include into the study women between 8 and 12 weeks of single pregnancy, not assisted with reproductive technology, and not expected to be finished as spontaneous abortion. All women who agreed to participate in the study are interviewed by obstetrician and/or midwife using detail questionnaire. During that visit saliva and blood sample is collected. The second visit scheduled between 20 and 24 weeks of pregnancy include all elements from the first visit and additionally collection of urine sample. Third examination between 30 and 34 weeks of pregnancy contains: third questionnaire and collection of saliva, urine, blood and hair samples. At the time of delivery blood sample from the mother and cord blood is sampled. After delivery pregnancy outcome is notified and about 2 weeks postpartum breast milk is collected. Place of residence is geocoded (GIS) and exposure to PM10 is assigned based on the measurements performed by the closest air monitoring station.

Results

Preliminary analysis was performed among 100 women to assess the impact of air pollution measured as PM10 exposure on pregnancy outcome. In analysis cotinine level in saliva was included as the confounding factor. There is the association between the PM10 level and adverse pregnancy outcome: pregnancy duration ($b = -0.06$; $P = 0.03$), chest circumference ($b = -0.08$; $P = 0.03$). Not statistically significant association was found for birth weight ($b = -1.05$; $P = 0.9$), birth length ($P = -0.06$; $P = 0.2$) and head circumference ($P = -0.05$; $P = 0.1$).

Fertility as a factor of exposure to poverty—the association between utilization of reproductive health care and social condition: a case-control study Isabel Craveiro

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Background

Studies of attitudes and practices are increasingly used in public health recognizing the importance of knowing and understanding the representations, but not specifically related to the motivations of reproductive health care utilization among urban women living in different social contexts. Our main objective was to compare the access to health care, explaining the patterns of Reproductive Health Care utilization among poor and non-poor women.

Methods

The case-control study was conducted in the Lisbon council (June of 2007 to March 2008), with a random sample of 1513 women of fertile age: 499 cases of women considered very poor, from the beneficiaries of RSI (Social Welfare Payment for Inclusion) of SCML (Santa Casa da Misericórdia of

Lisbon); 1014 controls (two controls for each selected case)—507 poor women from others SCML beneficiaries and 507 non-poor women from four Health Centers of the Lisbon council. Data were collected through a semi-quantitative questionnaire applied by interview. A total of 1054 women answered the questionnaire, 304 cases (61%) and 750 (74%) controls. The statistical analysis involved calculation of central trend measures and multivariate analysis.

Results

The study examines the inter relationship between fertility and poverty, strengthening the importance of representations in the patterns of health care utilization. Poor women have lower pregnancy planning for the last child as compared with non-poor ($P=0.02$), which may result in possible obstetric complications. The results show statistically significant differences ($P<0.001$) in the use of pre-conception and postpartum consultations among non-poor women (presenting higher levels of utilization) comparing with very poor and poor women.

Conclusions

The analysis confirms the existence of gradients of poverty, which are important in terms of patterns of reproductive health care utilization. We emphasize the importance of the adequacy of health policies to ensure that vulnerable populations have an appropriate use of reproductive health care.

Social support in adolescent pregnancy

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Background

Social networks have positive effects on health and welfare.

Methods

This analytical-correlation study was carried out with a transversal cut, in a sample of 50 pregnant teenagers and 50 adult pregnant unmarried, aged between 14 and 38 years. We intended to examine the influence of sociodemographic variables in the perception of social support. The instrument of data included a questionnaire for the characterization of the sample that we build and a scale able to evaluate social support (Instrumental and Expressive Social Support Scale of Paixão & Oliveira, 1996).

Results

The results revealed that the two groups are statistical differences at the level of emotional support ($P=0.030$) with no differences in the financial support ($P=0.158$), practical ($P=0.569$) and total ($P=0.086$). The age, education, acceptance of pregnancy by the father of the baby, planning and acceptance of pregnancy did not influence the perception of social support. As to the residence found statistical differences for emotional support ($P=0.028$) and total ($P=0.037$) in the group of teenagers and the only emotional for adults ($P=0.001$).

Conclusion

It is necessary to research in the area of adolescent pregnancy to better understand the problems associated with it, improving prevention programs.

Prenatal and childhood exposure to pesticides and neurobehavioral development: review of epidemiological studies

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Background

Conventional pesticides comprise a diverse group of substances intended to destroy, repel or control organisms

identified as pests. Compared with studies of lead, mercury and PCBs few epidemiological studies have assessed the developmental neurotoxicity of pesticides.

Methods

Epidemiological studies focused on the neurobehavioural development of children exposed to pesticides were identified by a search of the PUBMED, MEDLINE, EBSCO, AGRICOLA and TOXNET literature bases.

Results

The results from the presented studies suggest that children exposure to pesticides may impaired development. Exposure to organophosphorus pesticides (OP) in children can caused difficulties with tasks involving short-term memory, increased reaction time, mental development and pervasive development problems. In neonates increased number of abnormal reflexes and mental and emotional symptoms in adolescents. The results of the studies investigated the association between exposure to organochlorine pesticides and neurodevelopmental problems display inconsistent results. Whereas some studies found reduction in mental and psychomotor function the other studies did not confirmed that.

Conclusions

Information derived from epidemiological studies so far indicate the need to increase awareness among people and children exposed to pesticides about the association between use of pesticides and neurodevelopmental impairment. We should simply apply the principle of prudence, just in case.

Anaemia in pregnancy is associated with lower risk of stillbirth and preterm birth in a heavily polluted Russian arctic town: a registry-based study on 23 950 singleton births

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Background

Previous studies have suggested that anaemia in pregnant women is associated with adverse pregnancy outcomes, but its effect varies between settings. The prevalence of maternal anaemia in Russia exceeded 80% during the 1990s, but the evidence on its association with pregnancy outcomes is scarce. We studied the effects of anaemia on stillbirths and preterm births in a Russian industrial town located in the circumpolar area.

Methods

A registry-based study in a heavily polluted by nickel and copper industry town of Monchegorsk, Northwest Russia (65°56' N; 32°54' E). Data on 23 950 singleton births with available data on maternal anaemia were obtained from the Kola Birth Registry, 1973–2001. Maternal anaemia was defined as haemoglobin level below 120 g/l. Multiple logistic regression was used to estimate independent effects of maternal anaemia on stillbirths and live preterm births with adjustment for potential confounders. Crude and adjusted odds ratios (OR) with 95% confidence intervals (CI) were calculated.

Results

The prevalence of maternal anaemia increased from 47% in 1973 to 89% in 2001. Most of anaemic women had haemoglobin levels between 100 and 120 g/l. The overall proportions of stillbirths and preterm births for the study period were 0.1 and 5.1%, respectively. Women with anaemia in pregnancy were less likely to have stillbirths than women with no anaemia [odds ratio (OR) 0.67, 95% confidence interval (CI) 0.51–0.89] after adjustment for age, occupation, marital status, parity, smoking and alcohol consumption and year of delivery. Similar associations were observed for preterm births (OR 0.66, 95% CI 0.58–0.75).

Conclusions

The main findings are not in line with most previous research and suggest that maternal anaemia is associated with lower risk of stillbirth and preterm birth in Monchegorsk. The importance of definition of anaemia and potential applications of the findings for heavily polluted areas in Russian Arctic will be discussed.

Folate intake in the women population at child bearing age as a public health nutrition problem

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Objectives

The adequate intake of folate, especially in the group of women aged 15–49 years has an important impact to decrease risk of neural tube defects in the fetus and newborn infant. The aim of the study was an estimation of folate, intake in the group of women at child bearing age in Poland.

Material and methods

The data of dietary intake of folates, and other nutrients comes from countrywide representative survey in the group of 4134 males and females from whole country carried out in 2000. The 24-h recall was used as the method to collect the dietary information. It was selected the group of young women aged 15–49 years, which contained 1116 non-pregnant and 23 pregnant women. The realization of survey was supervised, as it was suggested by FAO, by three scientific experts from UK; Hungary and Poland.

Results and conclusions

It was surveyed that the average level of folates intake with daily diet by women in the child bearing age was 224 µg/day. More than 65.0% of non-pregnant women and more than 90% pregnant aged 15–49 years consumed with daily diet less amount of the folate, than recommended for non-pregnant women in Poland –220 µg/person/day. At the same population it was also measured the level of intake of vitamins B1, B6 and cobalamin. In conclusion of the survey it was stressed:

- The average level of folates intake in women population at child bearing age, was a little higher, than recommended, for non-pregnant women –220 µg/person/day.
- More than 65% of the women population, in the child bearing age consume with daily diet, much less of folates than recommended level.
- Fortified some food, plant origin products with folic acid are present on the polish market and recommended, particularly, by primary health care personnel, to consume such assortment of foods by pregnant women.
- Only 31% of the women population at child bearing age consume during first trimester of pregnancy folic acid, as a food supplement with dose of 400 µg/person/day.
- It seems, absolutely necessary, to enforce the system of health education, in the area of primary prevention of neural tube defects, by use of folic acid.

Smoking during pregnancy and a pilot anti-smoking intervention in Romania

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The issue

A randomized anti-smoking intervention during pregnancy is implemented in Cluj-Napoca, Romania, one of the few in Eastern Europe. Smoking during pregnancy is the most modifiable risk of poor birth outcomes, an issue of particular relevance in lower-income developing countries.

Policy description

The intervention is part of a research project (2008–10) implemented in two urban clinics in Romania aiming to gather 200 smoking women during their prenatal visit. A risk screener documents smoking in detail. If the woman smokes, she is randomized into the ‘intervention’ group or the ‘control’ group. Based on the smoking severity, the intervention consists of brief advice and/or referral to the STOP SMOKING program, a nationwide effort including free medical help launched in 2008 by the Romanian government. Follow-up contact is being made after birth to ask about birth outcomes and changes in their smoking habits.

Preliminary results and anticipated effects

Approximately 16% of all pregnant women smoke (80 of 502). Among smokers, 34% smoke more than half a pack per day. Seventy-five percent tried to quit during pregnancy. Almost 85% agree that smoking during pregnancy may have negative effects on the fetus and cause complications at birth. Sixty-eight percent agree that quitting during pregnancy may reduce pregnancy and birth risks. Anticipated effects of the intervention include higher rates of smoking cessation and reduction, and lower incidence of low-birth-weight and preterm births in the intervention group compared with the control group. For now, there is too little follow-up data to evaluate these effects.

Lessons

The intervention is innovative as is implemented during pregnancy, a very opportune time to quit smoking. It is applied in a practical manner, and may be extended in other settings, nationwide, and in other countries as brief advice and specialized treatment are effective antismoking tools. It is easily transferable due to its brief and easy delivery by lay or medical personnel. Smoking during pregnancy is still prevalent, and its severity is high. Pregnant women are knowledgeable about the smoking risks and are committed to quit. Specialized help, especially as part of a nationwide program, may improve their chances.

Maternal smoking and infant heart defects

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Background

Epidemiological studies suggested increased risk of congenital heart defects among infants born to women who smoked during pregnancy. This study examined the association between maternal smoking during 3 months before pregnancy to the end of the first trimester and the risk of congenital heart defects in infants.

Methods

The case–control study comprised 181 newborns with congenital heart defects (cases) and 643 randomly selected newborns without any defects, born in Kaunas city during 1999–2005. Information on sociodemographic characteristics, health behaviors and other factors was collected interviewing parents and according to hospital records. Multivariate logistic regression analysis was used to compute odds ratios (ORs) and 95% confidence intervals (CIs) while controlling for possible confounders. The Mantel–Haenszel technique was used to assess the association between maternal smoking and heart defects in infants while controlling for educational level.

Results

After adjustment for potential confounding factors, including maternal education level, social status, statistically significant association between congenital heart defects and maternal smoking was found (adjusted OR 1.59; 95% CI 1.05–2.39) ($P < 0.05$). Women who smoked during this period and had lower levels of education were more likely to have infants with heart defects (Mantel–Haenszel OR 1.67; 95% CI 1.11–2.50) ($P < 0.05$).

Conclusions

The study results indicated that maternal smoking during 3 months before pregnancy to the end of the first trimester was associated with congenital heart defects in infants.

Smoking during pregnancy in Romania and associated risk factors

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Background

Improving maternal and child health is a key public health issue, a concern for the health policy makers, and one of particular relevance in lower-income developing countries. Women in developing countries are disproportionately exposed to various stressors, and are more likely to engage in poor perinatal health behaviors compared with the developed world. Smoking is the single most important preventable cause of death, and smoking during pregnancy is the single most modifiable risk factor of poor birth outcomes in many countries.

Methods

A risk screener is being applied to gather a sample of ~1000 pregnant women during their prenatal visit in two urban clinics in Romania. The screener documents in detail smoking prevalence, severity, and attitudes and knowledge about smoking. It also includes pregnancy risk factors poorly documented in Romania, such as depressive symptoms, stress, social support. Descriptive statistics and regression analyses show preliminary evidence on smoking prevalence and associations between smoking and other risk factors.

Preliminary results

A database in progress ($N=505$) finds that 16% of women smoke during pregnancy, and 26% smoked before pregnancy. All (100%) of the smokers' husbands smoke as well. Fifty-eight percent of Roma women smoke. Approximately 67% of all pregnant women had a non-zero score on the PHQ_2 depressive symptoms scale. Multivariate logistic analysis finds that being unmarried (OR 2.5, $P=0.03$), of Roma ethnicity (OR 3.3, $P=0.02$), and less-than-college education (OR 2.5, $P=0.02$) predict smoking during pregnancy.

Conclusions

Smoking during pregnancy is still prevalent in Romania. However, it is less frequent, potentially underreported, compared with prior Eastern European studies. Two thirds of the pregnant women have a non-zero PHQ_2 score, indicating the need for further depressions screening. Unlike other countries, stress and depressive symptoms seem not to be predictive of smoking. Successful smoking cessation strategies should include the spouse, family, and friends, and may not need to address mental health.

Effects of prenatal care on birth weight

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Background

The importance of prenatal care (PNC) for improving perinatal outcomes is well established. Utilization of antenatal services has been shown to be an important factor, affecting outcome of pregnancies. The purpose of study is to measure effect of the PNC and the location, where the PNC has been taken, on birth weight.

Methods

This is a retrospective causal study. The study was made at Yozgat Bozok Obstetrics and Gynecology Hospital and Yozgat Private Şifa Hospital in 2008. The study was made on

251 women who gave birth to a live baby. Original data was collected via questionnaire.

Results

The average age of the individuals who participated the research was 25.5 ± 5.9 , 17.5% was younger than 20, 9.6% was 35 years old and over. Average birth weight is 3301.7 ± 542.7 g and birth weight of 95.9% of them was 2500 g and above. Birth weight has been found independent of the changes in socio-economic status, fertility status, willingly pregnancy and period between pregnancies. Accordingly babies' birth weight has varied with respect to mothers' age groups (ANOVA $F=3.63$, $P<0.01$). It has been found that babies' birth weight was born from mothers aged between 15 and 19 years (Tukey = -335 g, $P<0.05$) and 20–24 (Tukey = -280 g, $P<0.05$) was less than babies was born from mothers aged between 25 and 29 years. 88.1% of mothers participating the research took PNC at first trimester and average PNC frequency is 11.9 ± 5.7 . All of the women (except one) at least once—98.4% of them from doctors—94.8% of them four or more times, 86.5% of them six or more times took PNC and 73.7% of them took qualified PNC. 35.2% of the women had been educated on one subject at least during pregnancy. As the PNC frequency is generally adequate, independently from socio-economical status, Birth weight is found inconsistent to PNC frequency, (Spearman's $r=0.00$), PNC qualification ($t=0.9$, $P>0.05$), location where the PNC has been taken (ANOVA $F=0.1$) and being educated from health staff ($t=0.47$, $P>0.05$).

Conclusions

When PNC has been taken adequately, the effect of socio-economic status on birth weight disappears. To avoid early age and unwillingly pregnancy and to increase time between pregnancies, family planning and consultancy services and should be given importance.

Social class inequalities in perinatal health in Umbria (Italy), 2007

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Background

Low birth weight (LBW) and preterm birth are the main determinants for neonatal and infant death. The objective of this research is to examine social class inequalities in adverse perinatal events.

Methods

The data was obtained from a population based study using routine maternity discharge data. This study consists of 8615 babies born in Umbria, an Italian Region, during 2007. Adverse perinatal events, such as preterm birth (<37 weeks' gestation) and low birth weight (<2500 g) in relation to various mother's social covariates (citizenship, residence, education) and to various mother's clinical covariates (parity, lack of fetal growth, assisted procreation) are included too. Logistic regression models were used to analyse the magnitude of each factor with respect to adverse perinatal indicators.

Results

There were 566 (6.1%) preterm birth and 528 (6.6%) LBW. In multivariate analysis, the results showed that maternal clinical characteristics are highly associated with preterm birth and low birth weight. For clinical aspect, preterm birth was found associated with assisted procreation [odds ratio (OR) 5.6, 95% confidence interval (CI) 3.6–8.5] and with lack of fetal growth (OR 4.4, 95% CI 3.1–6.1). LBW was associated with assisted procreation (OR 4.7, 95% CI 2.9–7.5), with lack of fetal growth (OR 10.8, 95% CI 8.0–14.6) and with prevailing pluriparity (OR 1.3, 95% CI 1.0–1.6). Regarding social class, we found that preterm birth is highly associated with age >40 years (OR 2.7, 95% CI 1.8–4.0), African citizenship (OR 1.5, 95% CI 1.0–2.3), rural residence (OR 1.3, 95% CI 1.1–1.6) and

low educational level (OR 1.6, 95% CI 1.2–2.1), while LBW is associated with rural residence (OR 1.3, 95% CI 1.1–1.6), low educational qualification (OR 1.5, 95% CI 1.1–2.1) and unmarried marital status (OR 1.29, 95% CI 1.01–1.6).

Conclusions

Social class factors have a substantial impact on the risk of newborns health status and policies measures aimed at social-demographic inequalities will reduce adverse perinatal events.

Minerals, vitamins and food supplements as fetal malformation risk factors

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The aim was to determine drug utilization in pregnancy and early postpartum period in Zagreb, and to identify major deviations from the existing trends. The study was performed at university departments and departments of gynecology and obstetrics in four medical institutions in Zagreb. Maternal diet rich in vitamins and minerals is a precondition for normal fetal development; however, most authors believe that no additional supplementation is needed in case of appropriate diet and adequate intake of all necessary nutrients. The vitamin-mineral complex was most frequently used by pregnant women from Zagreb ($n=508$; 56.9%). Analysis of calcium intake in pregnancy yielded a statistically significant difference at $P<0.05$ in the rate of congenital malformations between the children born to women with and without calcium intake, suggesting an association of calcium intake and congenital malformations; however, there was no statistically significant difference at $P<0.01$. These results substantiated doubts about uncontrolled use of various vitamin-mineral compounds in pregnancy. Ferro-compounds ranked fourth among 20 most commonly prescribed drugs. Iron as isolated preparation was used by 203 (22.7%) and in combination with other minerals and vitamins by almost two-third of pregnant women. Analysis of iron use in pregnancy produced a statistically significant difference in the rate of congenital malformations between the children born to mothers with and without iron intake, pointing to an association of iron intake and congenital malformations. This is in contrast to current concepts, since no such association was recorded in previous studies. Our study results support the reports that criticize injudicious iron prescribing, since about 10% of non-pregnant women of reproductive age suffer from anemia anyhow.

Infantile cerebral palsy in Italy: analysis of regional data in 2004 and 2005

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Background

Cerebral palsy (CP) is the most common cause of motor disability in paediatric age. In Western countries the prevalence of Infantile Cerebral Palsy (ICP) varies from two to three cases for 1000 live births, while in Italy the prevalence of CP has not yet been widely investigated.

The aim of this study consisted in analysing the supply of health services for the care of acute ICP by the construction of

hospitalization rates per 10 000 persons in the Italian regions during 2004 and 2005.

Methods

The study examined the ordinary and day-hospital discharges of Hospital Discharge Data for acute patients according to principal and secondary diagnosis of ICP (ICD-9-CM).

ICP hospitalization rates were standardized with direct standardization. Rates were stratified by gender, residence and admission region and discharge regime.

Moreover, a mobility matrix was constructed in order to understand if some of the hospital admissions of Italian citizens occurred in regions other than those of residence.

Results

The mobility from Southern to Centre-Northern regions was registered both in 2004 and 2005. Lazio was a point of reference for the Centre-Southern regions, in fact in 2005 the most of patients resident in it (95.6%) and in the South and Centre (e.g. 51.9% for Molise and 42.7% for Abruzzo) were discharged in this region. Lombardia (94.4%) had a major internal mobility too. Regions with major external mobility were: Umbria (91.0%), Valle d'Aosta (88.0%), Molise (86.5%).

Conclusions

From this analysis emerges that health supply for ICP care varies among regions. The Centre-Northern regions (e.g. Lazio and Lombardia) are able to offer more health care services not only to their own patients but also to those coming from different regions, since they ensure more specialized structures. These results should support the decision makers to make a rational planning concerning the overall ICP clinical path.

Environmental tobacco smoke exposure and psychomotor child development

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Background

In Poland about 30% of children are exposed to tobacco smoke coonhounds during prenatal period and more than 50% in postnatal one. Such exposure has serious health consequences including negative effect on child neurodevelopment. The aim of the study was to assess the effect of environmental tobacco smoke (ETS) exposure on psychomotor child development.

Material and methods

The study population consisted of 63 children with well assessed prenatal exposure to environmental tobacco smoke (three times analysis of cotinine level in saliva of pregnant women). Assessment of child ETS exposure within 1 year after birth was based on questionnaire conducted with mothers. The Bayley Scale for Infant and Toddler Development (BESID-III) was used for the evaluation of child neurodevelopment.

Results

Multivariate analysis (including gender, birth order of the child and parental educational status) indicated the statistically significant association between prenatal exposure to ETS and cognitive child development ($b=-4.0$; $P=0.04$). ETS exposure has also negative impact on motor ($b=-2.7$; $P=0.2$) and language ($b=-3.4$; $P=0.08$) abilities of the child although the results were not statistically significant.

Conclusions

Maternal smoking was found to be related to a decrease child neurodevelopment although it impossible to separate the prenatal from postnatal exposure. All effort should be taken to eliminate the child ETS exposure.

Persisting geographical disparities in neonatal mortality across Italy. An ecological study

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Background

While most Italian Regions have recorded a dramatic decrease in infant mortality rates in the last 10 years, great geographical variations persist. These variations are mostly attributable to neonatal mortality rates (NMR). In 2005 the Italian NMR was 2.7 deaths per 1000 live births, ranging from 2.2 in the North to 3.3 in the South. Explanations for such inequalities are complex and involve multiple factors. Population-based studies using vital statistics are a useful source of information for perinatal epidemiology and for monitoring health inequalities. Since 2002, following a change in legislation, Births Certificates are entrusted to the Ministry of Health, while the Italian National Institute of Statistics (ISTAT) is in charge of Death Registry. For privacy protection, individual matching of these data sets is not possible at a national level. Due to the lack of this crucial information, we performed an ecological study to examine potential correlates of these inequalities in NMR.

Methods

Using regional Italian data derived from the ISTAT and birth certificates, three socio-economic indicators were examined as potential correlates of NMR. Additional factors included the percentage deliveries in Birth Units with <500 births and number of neonatal intensive care units (NICU) with >1000 births/year.

Results

Preliminary results show that the gross domestic product was negatively correlated with NMR, while Gini's coefficient for income was positively correlated with NMR. The percentage of deliveries in Birth Units with <500 births, the number of NICU with >1000 births/year and the female employment rate were unrelated with NMR.

Conclusions

Our results suggest that socio-economic factors play an important role in Italian variations in NMR and provide a useful starting point for hypothesis generation that should be verified with analytical studies. Individual data could provide a more complete picture of the role of socio-economic factors as determinants of health services accessibility.

Infant mortality among foreigners/non-nationals living in Italy

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Background

Since infant mortality (deaths of infants aged one or younger per 1.000 live births) is known to be associated with health, environmental and social conditions, it represents a marking sign of the welfare level achieved also with regard to population subgroups of particular interest such as foreigners living in Italy.

Methods

Only official statistical sources are used such as the death forms in the first year of life, that are entirely controlled and processed by the Italian National Statistical Institute. All information related to events are collected in a current, total and exhaustive way; it is possible to disaggregate them according to main variables. As to citizenship, it is only available since 1997; the present work relates therefore to events occurred between 1997 and 2007 (last year available). Infant mortality rates are calculated keeping neonatal mortality separated, that is further distinguished into neonatal and precocious infant mortality (infants aged 1 week).

A longitudinal approach is adopted, considering foreign infants born in Italy and excluding those born abroad, who entered Italy at a subsequent stage, because they would have led to non-homogeneous and over-estimated ratios. International comparisons are considered in order to measure changes and improvements.

Results

Countries with high migration pressure show the highest infant death rates; it is thus possible to state that infant mortality in Italy affects almost exclusively this subset of citizenships. Precocious mortality in this area is almost double than the average values for foreign infants thus affecting the overall neonatal mortality values, and the overall infant mortality rates.

Conclusions

All the results show that the inequalities between Italian and foreigners have been decreasing over time: infant deaths among foreigners is decreasing and approaching Italian infant mortality rates. Within this framework, some critical aspects still concern infants of some specific nationalities due to problems in their integration path.

Continuity and coordination of care during and after neonatal intensive care

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Background

Most of the studies among children suffering from long-lasting health problems during and after neonatal intensive care looked at continuity and coordination of care from a provider point of view. This view excludes a patient perspective on continuity and coordination of care. Also, most research into this group of children focuses on medical outcomes, while research investigating the quality of care these children receive is rare. Therefore, this study assesses, from a parental perspective, the perceived continuity and coordination of care in ex-NICU children.

Methods

A cross-sectional survey, using a validated tool, was performed among parents of four age groups: newborns at the NICU ($n=51$), ex-NICU preschool children ($n=50$), ex-NICU children in primary school ($n=53$), and ex-NICU children in secondary school ($n=57$). Outcome measures are quality of care scores, as perceived by the parent, concerning continuity and coordination of care.

Results

Overall, parents are least satisfied with the consistency of care concerning the specific needs of both their children, and themselves. Parents of children in primary school experience most problems, followed by parents of children in secondary school. Furthermore, parents had a positive opinion towards other continuity and coordination aspects.

Conclusions

Our findings implicate that regular neonatal follow-up care should not be restricted to the first years of life, but should be extended to both primary school age, as secondary school age. In particular, health care providers have to be attentive for the changing needs of children during their development.

Risk-adjusted inter-hospital comparison for caesarean section considering the first four Robson Classification Groups

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Background

The caesarean section (CS) rate continues to rise in many countries around the world even though this increase is not associated with improvement in maternal and perinatal mortality or morbidity. The CS rate can be analysed by using the Robson Ten Group Classification System (TGCS), which categorizes women in ten mutually exclusive groups. We decided to concentrate on the first four Robson groups as primary caesarean deliveries are an important target for reduction and there is no clear evidence about risks and benefits of CS in pre-term birth or breech presentation. The aim was to identify an overall predictive model for CS in order to perform a risk adjusted hospital comparison.

Methods

All women who delivered in Emilia-Romagna from 1 January 2003 to 31 December 2004 were identified by linking Hospital Discharge Abstracts and Birth Certificate databases. Socio-demographic variables and maternal and neonatal clinical factors were collected. We considered all the identified group-specific risk factors and the statistically significant risk differences of CS determinants among groups and constructed an overall predictive model to perform a risk adjusted comparison among birth units.

Results

In total, 64 672 women were enrolled. The first four TGCS groups included 79.6% of total deliveries and 47.1% of CS. Considering the overall predictive model the highest adjusted RRs were found for ante-partum haemorrhage and severe co-morbid illness of mothers. The first and third Robson groups had the higher RRs than the second and fourth groups. After risk-adjusted comparison the Units ranking varied considering the four TGCS groups together or separately.

Conclusions

In order to improve comparisons among hospital performances to promote a reduction of unnecessary CS, our study focused on the first four TGCS groups. Examining the overall predictive model in each group, it will be possible to understand differences in order to implement specific audit activities.

Participation in newborn screening for type 1 diabetes in a Swedish population-based cohort study

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Background

Genetic risk for type 1 diabetes is defined through testing for susceptibility of human leukocyte antigen (HLA) genotypes. DiPiS (Diabetes Prediction in Skåne) is a screening study to identify children at genetic risk and to determine the predictive value of islet autoantibodies for type 1 diabetes. The aim was to describe demographic, psychosocial and hereditary factors for participation.

Methods

Among 35683 children born between 2000 and 2004 and screened for HLA, a total group of 7466 children had elevated genetic risk for type 1 diabetes. Data from self-administered comprehensive questionnaires at 2 months (baseline) was analysed for factors associated with participation at the 2-year follow up.

Results

The parents of 5070 children (68%) with elevated genetic risk filled out the questionnaire at baseline. At 2 years, 2643 families (52%) remained actively involved in the follow-up. Mothers were less likely to participate if they were under 30 years of age (OR 1.45; 95% CI 1.26–1.67), delivered in urban maternity clinics (OR 1.31; CI 1.13–1.52) or if the mother had more than one child (OR 1.35; CI 1.18–1.54). Mothers who had not received support from family and friends or consumed coffee during pregnancy (OR 1.24; 1.08–1.42) were also less likely to participate (OR 1.22; CI 1.01–1.48). There was no association between participation and diabetes history but mothers with gestational diabetes were more likely participants.

Conclusion

We conclude that participation in screening for type 1 diabetes is associated with mothers' age, number of children and place of living. Support from family or friends as well as coffee consumption affects participation while hereditary factors for diabetes were less important except in mothers with gestational diabetes. Determinants for participation in genetic screening programs need to be considered in future population screening for intervention trials aimed at preventing type 1 diabetes.

Thursday 26 November 2009, 16:00–17:30

Poster Session 3: Health systems and health policy**European Union health policies under debate**

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Issue/problem

For the last 6 years, the Health in Europe Observatory (OSE) of the Andalusian School of Public Health (EASP) has been working to deal with both the consequences and the opportunities regarding health and health services that belonging to the EU involves. During 2008–09, the OSE has been developing a project to bring EU health policy closer to public health-system professionals. The objectives are to establish spaces for information and discussion on policy, strategy and socio-health-related community programmes to assist with the forming of opinion, enrich the formulation of policy and strategy and facilitate decision making by the policy makers, professionals and health managers.

Description of the problem

We are using a participative and multi-disciplinary methodology based on contact networks with members of national and international organizations. We conduct in-depth examination on issues of interest on the Community agenda, form Panels of Experts for selected themes and generate spaces of information and debate (forums, meetings and seminars). Furthermore, we edit technical reports—the Health-in Europe Observatory Notebooks—to disseminate the elaborated information.

Results (effects/changes)

Three panels of experts formed to examine patient mobility in the EU, protection of data and food safety. Health-in Europe Observatory Notebooks—to date, five monographic technical documents elaborated and edited which examine issues arising from the European policy agenda (Strategy of Lisbon, protection of data, patient mobility, outside assistance and food safety). Two OSE Forums hosted to facilitate information and discussion on the above issues directed towards

professionals and top officials of health institutions and the academic world.

Lessons

The project has been highly successful as a strategy to convert executives, managers and health professionals into active individuals in the management process of EU related information. The products have been appreciated by health professionals as instruments to get informed and to form opinions on community issues.

Dare to Compare!—Benchmarking Dutch health with the European Community Health Indicators (ECHI) in 2008

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Background

Making use of the ECHI (European Community Health Indicators) shortlist, we compared Dutch public health to public health in other EU-27 countries. The ECHI shortlist (including over 80 indicators covering the entire public health area) has been adopted by the European Commission as a priority list for data harmonization among EU countries. We also examined to what extent Dutch data are available and suitable to meet the specifications of the shortlist.

Methods

The definitions and recommendations on each ECHI indicator provided by the ECHIM (ECHI Monitoring) project were used as a starting point. International comparisons were based on data from existing databases (e.g. Eurostat, WHO, OECD) and European indicator projects.

Results

Following a period of stagnation, the life expectancy of Dutch women is increasing again, but it is still below the EU-15 average and lies closer to the EU-27 average. The life expectancy of Dutch men is still in line with the increasing EU-15 average. The Netherlands scores well on heart disease, injuries, physical activity and overweight and on some quality of care indicators. Dutch mortality rates for cancer and respiratory disease are worse than average, as is smoking, ecstasy use and breastfeeding. This study also shows that for 65% of the indicators examined data are readily available in the Netherlands and most other EU countries, but for only 25% of the indicators the data are comparable between countries without constraints.

Conclusions

In 2006, the Dutch Minister of Health announced the ambition to move the Netherlands back into the top five of Europe in public health. This first ECHI benchmark shows that while the Netherlands is on the right track, improvements are still required in a number of health fields to achieve this. Dutch data availability is rather good, but comparability problems remain. More coordination on health data collection and dissemination within the Netherlands is needed.

Survey of existing systems for monitoring excess mortality in Europe: A EuroMOMO initiative

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Background

The EU project 'European monitoring of excess mortality for public health action' (EuroMOMO) aims to develop a routine public-health mortality monitoring system for detecting, in a timely manner, excess deaths related to public-health threats in Europe. As a first step, existing mortality monitoring systems must be identified.

Objectives

To map existing and planned mortality monitoring systems in Europe.

Methods

A questionnaire was sent to reference persons in 32 countries, focussing on: data flow, specific data collected, timeliness, and geographic coverage.

Results

Nine systems were identified in seven countries: Belgium, Germany, France (two systems), Italy (two systems), Portugal, Spain and Switzerland. All are managed by a health or statistics institute. All receive individual data. Data are provided by civil authorities (e.g., General Registrars Office) in all but one system. Four systems have national coverage. All systems record: gender, age, and date and place of death. Four systems collect data on climate and two on influenza. Most systems are rapid (range of median delay between death and registration: 4 h to 10 days). The most common strong points were: timeliness; coverage; individual data, linkage with influenza and climate data; data quality; low cost; and ease of management. The most common weak points were: delay and lack of data on cause of death (collected by one system). An additional six systems in a pilot phase and three planned systems were identified.

Conclusions

With nine operational systems (plus six pilot and three planned systems), the development of rapid mortality monitoring in Europe is in progress. The added value of pooling the data from these systems needs to be explored, and common analytical methods to make outcomes from the different systems comparable need to be applied. These issues will be addressed by the EuroMOMO project, and countries for a pilot study will be identified.

Widening gap in mortality between Russians in Estonia and in the neighbouring Russian regions after the break up of the Soviet Union?

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Background

After the break up of the Soviet Union the mortality differences increased between the native population and the ethnic Russians in Estonia. This study compares the mortality rates of Russians in Estonia and those in neighbouring Russian regions, before and after the break up of the Soviet Union.

Data

Unlinked cross-sectional data for 1987–90 and 1998–2001 in Estonia, and 1988–89 and 1999–2000 in St Petersburg city, Leningrad and Pskov oblasts were used to calculate life expectancy at birth, age-standardized mortality rates and mortality rate ratios for selected causes of death.

Results

From 1989 to 2000 life expectancy decreased by 4.9 years (men) and 1.2 years (women) for Russians in Estonia; in the neighbouring Russian regions LE decreased by 5.4 and 1.9 years. Mortality from cerebrovascular disease decreased among Russians in Estonia but increased in Russia. The same pattern was observed for ischaemic heart disease among women. For men, an increase was recorded in both countries, although smaller amongst Estonian Russians. These two causes were the main contributors to the increasing mortality gap between the two groups. Higher mortality rates for some alcohol-related causes in Estonian Russians at the same time indicate that there may be other important factors that possibly modify the effect of alcohol on circulatory disease mortality in the former Soviet Union.

Conclusions

Poverty and alcohol consumption underpinned the falling life expectancy of Russians in both Estonia and in the nearby Russian regions. However, the increasing life expectancy gap between the two groups suggests that Estonian Russians, in spite of their minority position, have coped better with socio-economic changes during the transition.

Optimal recruitment outcomes in public health research

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Background

The dialogue between researchers, patients and health care providers is an integral part of medical research. Vulnerable patients within the community, such as the elderly or patients with chronic disease, pose particular challenges from an ethical and logistic perspective. Carefully targeted strategies can be used to improve recruitment for community-based research, thereby reducing the potential to disrupt and bias results with under-representation of the population of interest. Our aim is to investigate the effectiveness of an intervention to improve recruitment of patients for a community-based case-control research project aimed to improve the safety of warfarin.

Methods

Following the implementation of strategies we measured the changes to recruitment patterns by comparing reasons for non-participation and recruitment rate between two studies. The target population in both studies comprised community-based patients on warfarin aged >18 years who developed with an international normalized ratio (INR) ≥ 6.0 . The initial 2007 pilot study identified potential weaknesses enabling us to develop interventions for the subsequent larger study. Interventions included: improving communication, information with doctors and patients, utilizing an 'opt off' method, incorporating a personal approach to potential participants, the option of choosing to having a home visit or attending the interview at a location close to their home.

Results

Comparison between two studies showed increased participation following the intervention, recruitment rate increasing from 71.4 to 82.5%. Reasons for non-participation included disinterest, doctors recommendation and opting out of the study. When comparing the two studies we saw marked increase in recruitment rate from 71.4% (2007) to 82.7% (2008).

Conclusion

Our findings highlight obstacles that are apparent in community-based patient safety research. Our results show a noteworthy improvement in successful patient recruitment, with a marked decrease in non-participation due to patient disinterest or doctor recommendation. We recommend these tools in order achieve optimal recruitment rates.

Sustainable development in Serbia

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Issue

Environmental health problems caused by economic activity have not only local but national and international effects. Many our cities and municipalities are becoming the site of large-scale environmental, economic and social challenges.

Description

The co-operation leading to the preparation of this Programme was initiated by both the KS (Norwegian Association of Local

and Regional Authorities) and the SKGO (The Standing Conference of Towns and Municipalities), as the result of the awareness of the two associations of the fact that, through joint action, they can substantially help improvement of overall living conditions in Serbian towns and municipalities and in the same time promote friendship between the two nations. The goal of the Programme is to contribute to the improvement of the quality of life in Serbian local communities, by obtaining better environmental conditions and enabling local governments, as well as National Government, to define and pursue policies of sustainability in the further development Serbian towns and municipalities.

Results

LA21 Coalition, The Polluted Towns Coalition, Second National Conference on Sustainable Development, Cooperation with national authorities, donor community and other stakeholders

Lessons

The methodology for strategic planning for sustainability is now accessible to all the municipalities in Serbia through the manuals and brochures prepared within the Programme:

'Local Agenda 21: The Basic Guide for Local Sustainable Development Planning'

'Visioning Manual for Local Sustainable Development Planning'

'Participatory Situation Analysis'.

Following the trends in sustainable development in the EU (European Union) and the region, and adopted the Declaration on Local Sustainable Development at The First National Conference of Local Sustainable Development in Serbia, the Program Team SKGO members realized the Project 'Towards Sustainable Community: Creating Local Agenda 21 in Cross-Border Regions of Serbia and Hungary'. The main objective of the Project, was improving quality of life in cross-border municipalities through mutual cooperation in implementation of EU standards and principles of sustainable development.

Public health in India: an overview

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India has relatively poor health outcomes, despite having a well-developed administrative system, good technical skills in many fields, and an extensive network of public health institutions for research, training, and diagnostics. This suggests that the health system may be mis-directing its efforts, or be poorly designed. To explore this, the researcher use instruments developed to assess the performance of public health systems in the India based on the framework of the Essential Public Health Functions identified as the basic functions that an effective public health system must fulfill. This paper focuses on the federal level in India, using data obtained from senior health officials in the central government. This paper broadly focuses three areas. First, it has overlooked some fundamental public health functions such as public health regulations and their enforcement. Second, deep management flaws hinder effective use of resources, including inadequate focus on evaluation; on assessing quality of services; on dissemination and use of information; and on openness to learning and innovation. Resources could also be much better utilized with small changes, such as the use of incentives and challenge funds, and greater flexibility to reassign resources as priorities and needs change. Third, the central government functions too much in isolation and needs to work much more closely with other key actors, especially with sub-national governments, as well as with the private sector and with communities. For various reasons, mostly of political economy, public funds for health services in India have been focused largely on medical services, and public

health services have been neglected. This is reflected in a virtual absence of modern public health regulations, and of systematic planning and delivery of public health services. This article also focuses the fundamental obstacles to effective disease control in India, and indicates new policy thrusts which can help overcome these obstacles. I conclude that with some re-assessment of priorities and better management practices, health outcomes could be substantially improved.

The role of social health insurance towards equity in healthcare utilization in India

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Background

The increasing cost of health services is a burning issue of concern in the arena of public health. The present article tries to address the importance of health insurance for equitable healthcare utilization and whether social health insurance can really be a healthy option for healthcare financing in India.

Methods

Dataset of a primary survey is used and with emphasis on Employees State Insurance Scheme (ESIS), a social health insurance scheme meant for social security. Data was collected using a two-stage stratified random sampling procedure from 400 households and following an exit-interview technique, information regarding quality of care was gathered from 150 patients, who availed treatment from ESI service-dispensaries/hospitals. To assess the impact of scheme membership on healthcare utilization and financial protection, two-part model has been used. To assess catastrophic impact of healthcare payments, incidence and intensity of catastrophic healthcare costs has been measured. Constructing a composite index of quality of care, the paper also investigates quality of care provided in the health facilities under the aforementioned social security scheme and whether it affects healthcare utilization among the insured.

Results

Findings reveal that insurance coverage is very low among the people of lower income quintiles, and they spent a larger share of their income to meet healthcare costs. Results also suggest that at the lower thresholds, incidence of catastrophic health costs is more concentrated among the poor and by contrast, at the higher thresholds, incidence of catastrophic health costs is more concentrated among the rich.

Conclusion

Although, regression analysis indicates households having any health insurance scheme tend to utilize healthcare services more compared with those without any health insurance, risk-reduction outweighs quality of care among those who are insured. The article notes that ESIS loses its importance without improvement in quality of services. The article also recommends few mechanisms how best the healthcare services can be offered to the poorer people and that may work out as a supporting option to get rid of the threat of catastrophic health payments and debt-trap.

Health monitoring at the Robert Koch Institute

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Background

Representative and valid health information is needed as the basis of health policy, as well as for planning and evaluating health prevention programs and health services. Since 1984, the Robert Koch Institute has been repeatedly conducting population-representative health examination and health

interview surveys for adults and furthermore for children and adolescents. The aim of these nation-wide cross-sectional surveys was to gather reliable core indicators on the population's health status and health risks.

Methods

Based on its experience in planning and conduction health examination and health interview surveys, the Robert Koch Institute has been administrating a health monitoring system since January 2008. Within this system, health examination surveys and health interview surveys with longitudinal components are being performed in alternating survey periods. In this way, changes over the time in health status and health behaviour and causal relations can be determined. These surveys are continuously accompanied by annual cross-sectional interview surveys of the population to describe health trends and to enable governments to respond quickly and flexibly in the field of health policy.

Results

The health monitoring system will provide nation-wide representative information on the health status (subjective health, chronic diseases, mental health, functional limitations), health determinants (social and living conditions, health-related behaviour, health related support, health risks), and health care (vaccination, medicine use, health system utilization, health insurance coverage). Twenty years after the German unification, trends in the divergences of health status and health-related behaviour in the different regions (Länder) and the western and eastern part of the country will be presented.

Conclusions

The possibility of longitudinal and cross-sectional analyses as well as the integration of the health surveys into the European context will demonstrate the new quality of the health monitoring system and its contribution to health reporting, health policies, and health sciences.

Policy for control of demographic decline of Russia

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Demographic decline is top national priority in Russia

Recently Government adopted Concept of demographic policy till 2025 and drafted Concept of Health Care till 2020. However, despite declarations, two leading factors of demographic decline: alcohol abuse and tobacco use, claiming respectively up to 650 thousand and up to 400 thousand lives annually are so far left uncontrolled.

Alcohol policy is at dangerous crossroads

Government does not regulate transnational beer industry. Vodka turnover is seen by the Federals, for the first time after 1992 abolition of State monopoly, as source for budget in era of cheap oil. Federals are taking vodka under control, with declared (and false) reason to save population dying from falsified liquor. Alcohol industry suggests to decrease excise tax, in order to improve tax collection, prevent illegal production of 'bad quality' vodka, and provide cheap quality liquor. In economic crisis accessible vodka is seen as social anesthesia.

Transnational tobacco industry, responsible for 94% of tobacco production in Russia, is very strong economically and politically, and successfully resists effective regulation, despite FCTC ratification and support of Russia from Bloomberg Global Initiative.

Thus, there is window of opportunity for control of demographic decline. It is critically important to convince the Government that if it takes measures aimed at raising taxes on alcohol and tobacco, the state of demography and budget will improve considerably. If Government will follow alcohol and tobacco industry initiatives, Russian demographic decline will speed up.

Is Belgium catching up his delay on vital statistics? The state of art

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Problem

The most recent national vital statistics in Belgium are those of 1999. The federalization of the country, the complexity of the data flow, the high number of stakeholder and health authorities involved in the process are among the reasons that could explain a so long delay.

Description

The French and the Flemish Communities were not prepared for the management of birth and death certificates in the late eighties; the startup of this activity was very slow generating rather quickly an important break in the data delivery. At the beginning of the 90', the Flemish Community decided to react; additional people was hired allowing to have Flemish vital statistics available on due time. The Brussels' region also took its responsibilities on the matter, actually subcontracting the data management to the Flemish Community. The French Community (FC) was slower to react; it is only recently that major efforts were made but the effects of these measures have not yet had an impact on the data availability at national level.

Results

The mortality statistics for 2004 in Wallonia are presented here to describe the effects of the new data management methods (automatic character recognition and coding procedures) and the impact of the adoption of the new International Classification of Diseases (ICD-10). The FC adopted 'Styx' for automatic coding of causes of death allowing to counter-balance for part of the delay observed even if some manual coding is still required. In 2004, a total of 36.077 deaths were reported in Wallonia with age-adjusted death rates of respectively 952 per 100 000 for men and 545 for women, representing a decrease of 10% for both genders from the 1997 rate and a record low historical figure. The five leading causes of death in 2004 accounted for 80% of all deaths in Wallonia. In rank order, according to the proportional mortality ratio, they were cardiovascular diseases, neoplasms, respiratory diseases, external causes and digestive system diseases. This ranking is the same as in 1997 despite the introduction of the ICD-10 in between.

Lessons

The introduction of optical reading, automatic coding system and the set-up of a specialized team has allowed the FC to catch up with the huge delay in vital statistics and to improve the data quality.

Setting up an intersectoral policy process between health and transport: lessons learned from the region of Carinthia

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Issue/problem

Because many health determinants are beyond the control of the health sector, intersectoral cooperation between health and other sectors is crucial to improve health. Policy decisions taken in the transport sector for instance have health damaging or promoting effects. Nevertheless experiences on intersectoral policy action—especially among transport and health—are scarce. Because of the size of health damages caused by the transport sector intersectoral action is urgently needed.

Description of the practical intervention

The aim is to set up a sustainable process to ensure intersectoral cooperation between the health and the transport sector at the regional level. According to the public health action cycle the process started with integrating the

perspectives of other sectors than health into regional public health reporting. Based on the results of the report a cooperation process with the transport sector was initiated. A literature review, expert interviews and a workshop with key informants were conducted to inform the intersectoral steering group on how to develop an intersectoral action plan.

Results (effects/changes)

In Carinthia there will be an intersectoral steering group and a working committee consisting of Carinthian stakeholders and experts from the health and transport sector developing the action plan. A consultation process open to the public will be conducted. Furthermore, the development process will be accompanied by public relation work and a process evaluation. The health sector will be the leading actor supported by an external coordinator.

Lessons

Although resources are made available, it was not possible to integrate the coordinating position into the institutional structure of the health department. Since the two sectors are led by two political parties the question of communication processes to the public remains.

Hospital at Home in France: place in the health care system, patient's characteristics and evolution

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Background

Hospital at Home (HAH; French acronym HAD for Hospitalisation à Domicile) is an original model of organization of hospital care at home which exists since 50 years in France. HAD provides to the patient in his/her own home, involving technical care of a more or less complex or intensive nature, without which hospitalization would be required. International researches have shown the medical, human and economic interests of this hospitalization mode. In France, new legislative measures and an appropriate mode of financing have contributed to the recent development of HAD.

The objective is to situate the HAD in the health care system in France, to describe the patients, their treatments and dependence levels, their medical care trajectories, today and comparatively to the situation before the reform.

Methods

We use the medicalization programme of information systems in hospital at home (French acronym: PMSI-HAD) of 2006, implemented to charge the stays and to perform the knowledge about HAD. This exhaustive national database records and archives the individual characteristics and the treatments provided during a patient's hospital stay.

Results

Patients admitted are from all age, particularly young women and elderly men. Six stays out of ten are realized by women. Half of the stays last less of six days but this duration varies with the admission reasons. Perinatal care (22% of admissions, 7% of days), cancer care (10%, 7%) and palliative care (15%, 20%) are the main admission reasons.

Six patients out of ten are coming from a standard hospitalization; four patients out of ten were at home before the admission. A standard hospitalization has been reduced for 33% of the patients, delayed for 7%, partly avoid for 20% and totally avoid for 33%. Almost 7% of the stays have finished by the death of the patient at home.

Conclusions

In France, the medical progress permit the HAD to offer an alternative to traditional hospital-based care. It is a service which improves the connection between the city and the hospital, providing acute health care and extending responses for chronic diseases in front of demographic evolution. Nevertheless, this convenience supply is still marginal, several departments are not covered in 2006.

Health expenditures evolution in Brazil: an analysis utilizing the model of components price and quantity

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Background

The increasing of health expenditures is one of the main questions in health economics. This question is genuinely relevant in Brazilian health insurance market, that deals with about one-fourth of the population of the country and that had developed the regulation since 1998, by means of Regulation Agency of Health (ANS). Theoretically, two components due expense evolution: i) price variation (or inflation in health), that represents increasing of unitary costs and the cumulative technological incorporation; ii) quantity variation (rising of utilization), that could be explicated by the popularization of health methods and seniorization. The aim of this study is to analyse Brazilian health insurance expenditures evolution, divided in this two theoretical components, considering some market segmentation.

Methods

The methodology applies the concept of index number, to estimates variations index of price, amount and value. Considering the actuarial definition, product cost (value) can be separated in frequency of use (amount) and event cost (price). The source is ANS's database (2002 until 2006), that presents the market segmentation according to assistance (medical or dental plans) and to the category of the contract (collective or individual).

Results

Price variation shows higher evolution than quantity component, principally in individual medical plans.

Conclusions

In the expenditure evolution at Brazilian private health, the component health inflation was more intense than rising of utilization. It reinforces the importance of improving the efficiency of health services, by means of procedures to better the hospital management and the cost-benefit analysis of health care technologies. The differentiation between price and quantity indexes is more severe in individual medical plans, and one of its determinants can be the fact that this segment presents more children and old-aged people in composition of demand, in comparison to the collectives ones.

Considering the importance to evaluate the determinants of increasing expenditures in health, this research should be developed, investigating other segments of health and countries.

Primary care in Poland—selected results

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Background

In one of the vital WHO documents Alma Ata declaration, primary care was defined as requisite health care, made universally available to individuals and families in a society. Primary care addresses main health problems, providing promotional, preventive, therapeutic and rehabilitative services accordingly. Polish government began the transformation of whole health care in 1999, introducing the insurance system. From this moment all health care institutions could act exclusively basing on the contract agreement with National Health Fund. The aim of the study was to explore most organizational aspects of primary care. The analyse of macroeconomic data has showed an increase of hospital

services and specialists visits during last few years in Poland. It has been also observed the decrease of finances sources spent by public provider NHF on primary care contracts. Qualifications of the primary care employers are very different.

Methods

Six hundred primary care institutions from all 16 polish voivodships were surveyed by one of the leading polish opinion poll organizations. The collected data were statistically analysed. The project was funded by Ministry of Science and Informatization (2057/P01/2007/32).

Results

The primary care is dominated by the family physicians, but other specialists like internists, pediatricians are still present in this sector. The financing system based on capitation fee is criticized by part of doctors. The health promotion activity is important part of family doctors duties.

Conclusions

The primary care sector is still during transition. There is need of more effective financial policy, educational support, collaboration with other health sectors and the delegation of competences.

Inhibitors of ocular neovascularization: refundability policies by Italian National Health Service

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Issue/problem

Age-related macular degeneration (AMD) is the most common cause of adult blindness in Western, developed countries. Recently new medications have been introduced for the treatment of AMD with choroidal neovascularization (CNV), based on intravitreal injection of anti-vascular endothelial growth factor drugs (anti-VEGF), able to reduce the risk of severe visual acuity loss and to result in significant visual improvement.

Description of the problem

A survey on anti-VEGF use among the most important ophthalmic Italian centres, and a review on anti-VEGF refundability policies by Italian National Health Service (SSN) were carried out.

Anti-VEGF are represented by ranibizumab, pegaptanib and bevacizumab. The first two are on label, evidence-based (EB) and higher cost, the third is off label, not sufficiently EB and lower cost. Until December 2008, ranibizumab and pegaptanib, differently from bevacizumab, were not reimbursable by SSN. On 18 December, the Italian Drug Agency (AIFA) stated the refundability by SSN of pegaptanib and ranibizumab; during March 2009, AIFA established the exclusion of bevacizumab for the treatment of AMD with CNV from the list of repayable off-label drugs.

Results

Before new AIFA determinations, in Italy there was a scenario characterized by the availability of first class medications, for citizens able to pay, and second class medications, for the others. New AIFA statements, although requiring in the near future higher costs for SSN, answer for principles of evidence-based medicine and fair access to treatments.

Lessons

Public health choices should always be based on a strong dialogue between policy makers and researchers, in order to promote appropriate health policies and to avoid not EB decisions to be successively reviewed and changed.

Poster Session 4: Nutrition, obesity and diabetes

Health impact assessment of quality wine production in Hungary

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The incidence of alcohol-related health outcomes is strikingly high in Hungary. The effects of alcohol consumption are influenced not only by the quantity, but also the quality of drinks; therefore, wine production can have an important effect on public health outcomes.

The Hungarian wine sector faces several vital problems and challenges influenced by the country's accession to the European Union and by the need for restructuring. A comprehensive health impact assessment based on the evaluation of the Hungarian legislation related to the wine sector has been carried out, aiming to assess the impact of the production of quality wine vs. that of table wine, using a range of public health and epidemiological research methods, data and HIA guidelines.

The study finds that the toxic effects of alcohol can be reduced with an increased supply of quality wine and with decreased overall consumption due to higher cost, although this might drive some people to seek illegal sources. Quality wine production allows for improved use of land, creates employment opportunities, and increases the incomes of producers and local communities; however, capital-scarce producers unable to manage restructuring may lose their source of subsistence. The supply of quality wine can promote social relations, contribute to a healthy lifestyle, and reduce criminality related to alcohol's influence and adulteration.

The production and supply of quality wine can have an overall positive impact on health; nevertheless, several possible negative effects are expected without purposeful restructuring. Financial support for conversion, coordination of production and marketing, control of land use, quality and sources of wine, health promotion campaigns advertising moderate consumption of quality drinks are important actions for the maximization of favourable outcomes. Ongoing collection and analysis of data on production, trade and consumption of wine and on alcohol-related health outcomes ensure monitoring the success of the assessment.

Evaluation of food safety and nutritional quality of fresh and minimally processed vegetables in Italy during 2005–07

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Background

Demand for fresh, ready to eat vegetables has led to an increased in the quantity and variety of products available to the Italian consumer in the last 10 years. Moreover their total antioxidants-activity (TAA) have received increased attention by nutritionists and medical researchers for potential effects in the prevention of chronic and degenerative diseases. However the fresh nature of these products, the mild processing technologies and the storage at the refrigeration temperature describe a permissive ecosystem for survival and growth of pathogens microorganism representing a potential safety problem for the public health. The aims of this study were

to evaluate food safety and nutritional quality by TAA of fresh and minimally processed vegetables.

Methods

The microbiological food safety of fresh and ready to eat salads obtained from commercial farm of central Italy (Latina area) was evaluated. 1050 samples (265 fresh and 785 minimally processed vegetables) were collected during 2005–2007 and analyzed for detection of *Listeria monocytogenes*, *Salmonella* spp and *E.coli* O157:H7 according to ISO methods and PCR-BAX system (AFNOR/AOAC). The TAA was measured by ferric-reducing-antioxidant-power (FRAP) assay.

Results

Salmonella was detected both culture (*Salmonella* umbilo serovar) and PCR methods in 1 (0.38%) of 265 fresh vegetables. *Listeria monocytogenes* was detected by PCR method in 1 (0.38%) of 265 and 2 (0.25%) of 785 fresh and minimally processed vegetables respectively. None sample was positive for *E. coli* O157:H7. The highest TAA was observed in fresh vegetables, while a strong reduction (65%) was observed during minimally processing.

Conclusions

The present study shows, in general, a very low incidence of pathogens bacteria, that confirm food safety, but the minimally processing reduces significantly the TAA value, especially at the second day of commercial life of package, that affect the nutritional quality respect to fresh products.

Ota and zea in dried pasta on the Italian market

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Background

Contamination of grain by mycotoxins is a public health problem worldwide. Their presence is often associated with acute and chronic humans diseases. Pasta is a food useful for the human nutrition and it is simple to prepare. Flour and water are its main ingredients. Dried pasta is one of the foods most commonly consumed by Italians and Italy is leading the world ranking for the consumption of pasta. Also, pasta is conquering more and more important positions in the dietary habits of various peoples. The purpose of our study is to assess the presence of the mycotoxin Zearalenone (ZEA) and Ochratoxin A (OTA) with the aim of identifying the consumer's risk.

Methods

Two aliquots of 28 samples of dried pasta of different types pasta of durum wheat semolina, dried pasta with eggs, pasta for celiac and pasta with integral flour) and brands sampled in common supermarkets. The samples were prepared according to specific methods for the OTA and ZEA and purified by immunoaffinity columns OCHRA and ZEA-Test VICAM wide bore. The eluate was analyzed with a High Pressure Liquid Chromatography by UV-fluorescence detector (HPLC-UV-FL) Varian Prostar 220.

Results

The results shows a concentration of OTA and Zea below the limit of methods in all types of dried pasta tested.

Conclusion

The results confirm the quality of raw materials, the adequacy of the HACCP system adopted by food industries to assess the possible health risks at each stage of production, and that materials selected for packaging are suitable. The results also show that the products for celiac consumers and products with whole wheat flour have an elevated hygienic quality.

Sodium content found in the daily served meals at Novi Sad boarding schools

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Background

In order to prevent chronic diseases, particularly hypertension, cardio- and cerebro-vascular diseases, World health organization had set average salt intake goal for general population as <5 g/day. The intake of salt can be estimated by measuring of 24-h urine sodium excretion, 24-h dietary recall, as well as by other less accurate methods. The aim of this study was to establish the energy value and amount of salt in meals prepared daily for adolescents residing in boarding schools in Novi Sad.

Methods

Fifty-five individual daily meals prepared for adolescents in three diverse boarding schools during 3-year period (2005–07) were analysed. Standard laboratory procedures were used for determination of energy value and salt content. Estimation of daily salt intake did not include salt content of any provenance other than meals analysed.

Results

Our research showed that typical salt content in daily food portions served at boarding schools in Novi Sad was gradually risen from 8.70 (2005), 10.05 (2006) to 11.27 g (2007). Upper-limit value also rose from 12.37 in 2005, 15.50 in 2006 to 19.10 g in 2007. Average daily energy value of prepared meals was 2555, 2875 and 2852 kcal respectively, from 2005 to 2007.

Conclusions

The study presented here unveils the fact that the average determined content of salt in the meals served at Novi Sad boarding schools represents 175–225% of recommended daily salt intake, even without taking in consideration additionally added salt/seasoning, or those coming from snacks, very common in adolescent nutrition. This fact vouches for significant risk for future development of hypertension and other cardiovascular diseases in adulthood. Our investigation showed that there is an urgent need for all food companies to reduce the unnecessarily high salt content of food.

Assessment of nutritional status based on self-report via Internet

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Background

Nutrition is very important factor influencing human health. Changing nutritional habits to make them more healthy is very important, but in the same time very difficult task. First, we have to know how nutritional status at the population level looks like and then we can make some effort to change it.

Objective

The aim of the study was to assess nutritional status of small sample of polish population who used web-based Nutri-Day application.

Methods

Nutritional data were collected using web-based application Nutri-Day during year 2008. Out of 183 completed self-reports based on 24-h recall. Out of them 85.2% gave information about their gender, age, weight and physical activity level. From this analysis we excluded respondents for whom total energy intake was lower than 1000 kcal. From the self-reports, daily intakes of energy, macronutrients, vitamins and mineral components were calculated. In addition, we assessed percentage of RDA with respect to gender, age, weight and physical activity level.

Results

Mean energy intake was 1869.3 kcal (SD 618.0). We have noticed relatively high percentage of energy from fats (mean: 34.8%, max: 66.2%). In this population the intakes of calcium and ferrum were low. 64.6% respondents for calcium and 50% for ferrum did not achieved 75% of RDA in their daily intakes. We have also observed that intake of vitamin B1 was low—44.8% of study sample had too low intake of this vitamin—especially, low intake of vitamin B1 was observed for those who declared moderate level of physical activity (62.5% vs 35.9% in group of light physical activity; $P=0.008$). Intakes of vitamin C and vitamin A were high and for both average daily intake in this population was higher than 200% of RDA (201.7% for vitamin C and 220.9% for vitamin A).

Conclusions

Our data showed that in the study sample too low intakes of calcium and ferrum were observed. In addition we have notice insufficient intake of vitamin B1.

Estimation of dietary intake of acrylamide among surveyed group in Krakow

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It is known that acrylamide in high concentrations cause cancer and other disorders in laboratory animals. It is considered probable that it may also cause cancer in humans. The aim of this study was to estimate the amount of acrylamide in food that people are exposed to. To estimate dietary intake of acrylamide we conducted a questionnaire among 420 people in Krakow, who were divided into 4 groups: children from 6 to 13 years old (i), adolescences between 14 and 19 years (ii), adults between 20 and 40 years (iii) and adults between 41 and 60 years (iv). The median values of dietary intake of acrylamide in particular groups were 1.44 µg/kgbw per day (i), 0.62 µg/kgbw per day (ii), 0.53 µg/kgbw per day (iii) and 0.34 µg/kgbw per day (4). Acrylic amide intake is age-related and it decreases with age. In all age-categories the highest contribution in total acrylic amide concentration have baker's goods. Only the youngest individuals (1) prefer crisps products with median about 0.08 µg/kgbw per day. Average dietary intake among children in Poland is higher than the level reported for children in USA or in France. The average acrylic amide intake for adolescence is significantly higher than those described in France but comparable with German results.

Do income inequality and prices influence adolescents' daily fruit and vegetables consumption in Europe?

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Background

Large differences in food habits among adolescents are found between European countries. However, little is known about the role of macroeconomic factors in explaining some of these disparities. The aim of this study was to examine whether income inequality and prices influence adolescents' daily fruit and vegetables consumption in Europe.

Methods

This study was based on merged data consisting of the 2005/06 Health Behaviour in School-aged Children survey and macro level data collected from the 2006 United Nations Human Development Report and the 2006 FAOSTAT database. Macroeconomic variables were used: (i) Gini index, (ii) fresh fruit and vegetables prices in USD.

The sample consisted of 148 710 adolescents aged 11, 13 and 15 from 26 European countries. Countries were grouped into low, medium and high income inequality based on Gini index. Data were analysed using multilevel logistic regression models.

Results

Daily consumption of fruit varied from 23.2% in Latvia to 43.8% in Portugal whereas daily vegetables consumption from 17.1% in Austria to 52.9% in Belgium. No differences in adolescents' daily fruit and vegetables consumption were found among low, medium and high income countries. Fruit and vegetables prices were not significantly associated with daily consumption respectively. At the individual level, daily fruit and vegetables consumption gradually increased with family socioeconomic status in all countries but no significant differences were observed in Austria, Switzerland, Netherlands, Sweden for fruit and in Austria, Germany, Latvia, Romania, Slovakia, Croatia for vegetable consumption.

Conclusions

Family socioeconomic status is an important determinant of adolescents' daily fruit and vegetables consumption in all European countries. Income inequality and prices may indirectly influence fruit and vegetables consumption among adolescents. Future research is required to draw out the policy implications.

Body size and mortality in the linked Scottish Health Surveys

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Background

Obesity is a major health challenge and body mass index (BMI), a measure of general adiposity, may not always capture its health risks. Waist circumference (WC) and waist-hip ratio (WHR) reflect fat distribution and overall body size. We examined the association of these measures with mortality in a representative sample of the Scottish population.

Methods

The responses of 22 426 participants (aged 18–86 years at interview) in the 1995, 1998 and 2003 Scottish Health Surveys were linked to mortality data until the end of 2007. Cox's proportional hazards models, adjusted for age, gender, smoking, alcohol consumption and survey year, were used to estimate hazard ratios (HR) for all-cause and cause specific mortality for either BMI, WC or WHR (each with four categories, second lowest as referent). The combined effects of BMI and either WC or WHR on time to death were examined.

Results

Obesity prevalence according to BMI ($\geq 30 \text{ kg/m}^2$), WC (men $\geq 102 \text{ cm}$, women $\geq 88 \text{ cm}$) and WHR (men ≥ 1.0 , women ≥ 0.85) was 22.2, 27.2 and 18.7% respectively. BMI defined obesity was not associated with increased risk of mortality (HR 0.93; 95% CI 0.80–1.08). In contrast, the HR for obesity determined by WC was 1.17 (1.02–1.34) and by WHR was 1.34 (1.15–1.54). A stronger gradient was identified for cardiovascular mortality. A low BMI ($< 18.5 \text{ kg/m}^2$) was associated with elevated HR for all-cause mortality (2.60; 1.92–3.53) and for chronic respiratory disease mortality (3.28; 1.44–7.45). Within each BMI category there was a trend for an obese WC to be associated with increased risk of all-cause mortality.

Conclusion

WC and WHR may be useful alternatives to BMI for defining the health risks associated with body size or for improving the discriminatory power of BMI.

Challenges in obtaining comparable information about obesity in Europe

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Obesity, measured by body mass index (BMI), is a global epidemic. Recent European comparisons on obesity rely on health interview data, even if the European Community Health Indicators Monitoring -project suggests that BMI should be calculated from measured height and weight. Many studies have shown that people tend to under-report their weight and over-report their height.

The European Health Surveys Information Database was used to compare questions and examination protocols in health surveys carried out since year 2000. Height and weight were asked in 74 surveys and they were measured in 21 surveys. Previously used methods and questions were compared with the recent European standards: questions from European Health Interview survey (EHIS) and measurement protocols from the Feasibility of a European Health Examination Survey Project.

In interview surveys, the questions on height and weight vary. Wearing shoes and clothes are not always specified. Also the examinations protocols have differences in devices, measurement positions and clothing. These factors may lead to significant bias in the estimates for obesity. Even when similar wording or measurement technique has been used, differences in methodological issues (e.g. sampling and response) restrict comparability of the results.

When the EHIS and the European Health Examination Survey (EHES) will be implemented throughout Europe, standardized data for the comparisons between countries and socioeconomic groups will be available. EHIS results need to be evaluated against EHES to estimate possible reporting differences on weight and height between countries and socioeconomic groups, and to evaluate these effects on the prevalence of obesity.

Transtheoretical model of change and weight control

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Background

The prevalence of obesity in Malaysia has increased 4-fold during a 10-year period (1996–2006). The 'Transtheoretical Model of Change (TTM) for weight control in one rural overweight and obese adult population' study aimed to examine the stages of change, the decisional balance pattern and the processes of change used by these adults.

Method

A set of questionnaire was used to collect data from criteria-specific adults from 10 identified villages in 2007. Focus groups were conducted to identify the barriers to lose weight.

Results

A total of 271 respondents participated in the survey research and 38 of these respondents joined the six focus groups. Findings showed that only 18.8% of the respondents were in the action stage of change or taking actions to lose weight. Education level, household income and age had significant influence on respondent's stages of change. There was statistical significant relationship between decisional balance, processes of change and respondents in the different stages of change. Focus groups data revealed 'lack of know how,' 'failed attempts to lose weight' and 'cannot control eating,' the main factors for pre-contemplating to lose weight.

Conclusions

The findings showed that stage determination was crucial to ensure stage-match weight control intervention. Focus groups

findings supported the decisional balance pattern of pre-contemplator of losing weight. It also suggested that decisional balance and processes of change constructs of TTM were sensitive to evaluate the intermediate outcomes of self-initiated weight loss efforts in this rural population.

Physical activity and consumption of calcium from dairy products by mother-daughter pairs, Poland, 2008

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Background

A hypothesis has been put forward that there is a relationship between mothers and daughters in terms of their pro-health activities, expressed by consuming appropriate amounts of dairy products and calcium and having a high level of physical activity.

Methods

A study was conducted in 2008 among 247 mother-daughter pairs (aged 43.5 ± 5.6 and 16.9 ± 2.4 , respectively), living in the same households. Customary consumption of dairy products (g/day) and calcium (mg/day) from such products and diet was determined with a validated questionnaire with the acronymic name of ADOS-Ca. The levels of individual calcium consumption (D/SDD) were determined and the women/girls were subsequently divided into three groups with the following levels of consumption: unsatisfactory (D/SDD < -1), satisfactory (D/SDD > 1) and undetermined (D/SDD from -1 to 1). The physical activity was determined in MET-minutes/day with the international questionnaire of physical activity with the acronymic name of IPAQ.

Results

A weak significant correlation was found between mothers and daughters in terms of the dietary calcium consumption ($r=0.14$, $P<0.05$) and physical activity ($r=0.22$, $P<0.05$). There were 50% of the family pairs in the group with the same calcium consumption and the same level of physical activity was found in 49% of pairs. 2% of the family pairs each had appropriate calcium consumption (D/SDD > 1) or a high level of physical activity (>3000 MET-minutes/day) in the mother and daughter.

Conclusions

The results indicate a similarity of consumption of calcium from dairy products and physical activity by family pairs of mother-daughter and suggest the need to take up pro-health activities targeted at mothers and daughters, aimed at increasing the consumption of dairy products and the level of physical activity.

Acknowledgements

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Anders Essen—eating differently in Styrian residential schools for apprentices

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A lot of adolescents in Styria work as apprentices. Not enough fruit and vegetables, food rich in sugar and fat is part of their everyday menu and leads to a rather high obesity-rate. Health promotion seeks to establish healthy living-conditions, for example possibilities to enjoy good and healthy meals. But where do young men and women get a chance to enjoy that?

For 2 months a year Styrian apprentices go to one of the Styrian residential schools. There they have the possibility to enjoy regular meal schedules (breakfast, lunch, dinner). The trainees are very satisfied with the food. But: Is there a chance to build up a positive relation to healthy food? The staffs of the kitchen don't think so. They cook what they assume young people like to eat, e.g. not a lot of vegetables, a lot of meat.

The project wanted to establish healthier eating conditions there—and was very successful.

A team of health promotion and healthy large-scale catering professionals accompanied the staff of the boarding schools, especially the teams of the kitchen, to reach self-rated goals concerning the quality of eating-conditions. Because we don't eat nutrition but food it was important to open their minds to a more open view to healthy food beyond only nutritional attributes of food.

Goals were to advance the:

nutritional quality of the dishes delivered (e.g. less fat, more vegetables, more wholemeal products)

ecological quality (e.g. increased purchase of organic or fair traded products)

social quality of dining (e.g. about the creation of dining rooms)

Results

Kitchen staff used more vegetables, cooked less fatty dishes, delivered a bigger variation of healthy meals, used more wholemeal and organic/regional products and less convenience products.

The young people enjoyed the food.

The motivation of the cooks and their staff to continue is very high.

Lessons learned

It is important to take enough time and let the staffs of the kitchens define their own goals (participation)

It is possible to prepare good-tasting and healthy meals with a low budget.

It is necessary to work in interdisciplinary teams.

It is important to give opportunities for kitchen-staffs to get theoretical and practical knowledge about healthy food preparation (empowerment and networking).

The association of parental education with adolescent nutritional behaviour depends on gender

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Methods

Data were collected in 2006 ($n=3433$; 50.6% females; 14.3 ± 0.6 years) in Slovakia. Simple prevalence rates for daily candy consumption and for the absence of daily consumption of breakfast, fruits and vegetables were calculated for both genders separately. These calculations were also performed in both socioeconomic groups, defined by the educational level of parents.

Results

Gender differences were found only in the absence of daily breakfast. Daily consumption of vegetables was very low in both genders, while 12.2% of respondents reported all four unhealthy nutritional habits simultaneously. Girls with low SES were the group most at risk (16.7%), reporting significantly less frequent consumption of a daily breakfast, fruits and vegetables. Among boys, no socioeconomic gradient was found. Daily consumption of candy was not related to either gender or socioeconomic status.

Conclusions

A socioeconomic gradient in nutritional risk behaviour was found only among girls. More longitudinal research

is needed on gender differences in nutritional habits and the factors that influence them. There is an urgent need to promote consumption of fruits and vegetables more efficiently among all adolescents. Enhanced attention should be paid to girls with lower socio-economic status regarding the culmination of several unhealthy nutritional habits among them.

National total diet study for chemical contaminants in Macedonia; design and preliminary results

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Chemical contamination of food is closely related to various non-specific chronic diseases and pose serious public health problem. The objectives of the National Total Diet Study in Macedonia, started in 2008, are to collect, analyse and disseminate data on chemical contaminants in food and total diets for specific population groups.

Study design

The country has been divided in five regions for sampling, samples were taken from the food products displayed at the green markets from each region, two times a year, according to the plan for sampling. Samples were also taken from whole day meals in dormitories in the country where population group aged 14–18 years is eating. Laboratory testing for chemical contaminants was performed in accredited laboratories, at the Institute of Public Health. They were tested on residues of organochlorine and organophosphoric pesticides and on heavy metals residues, using standardized methods.

Results

Preliminary results have shown that average value of detected lead is highest in fish with 0.048 mg/kg, milk and milk products had 0.040 mg/kg, meat and meat products had 0.022 mg/kg and in the vegetables was 0.028 mg/kg. Average value of cadmium detected is highest in fish 0.01 mg/kg, then in vegetables was 0.007 mg/kg and in meat and meat products 0.004 mg/kg. Lowest concentration of cadmium is detected in milk and milk products with 0.002 mg/kg. Average contamination level with mercury in fish was 0.129 mg/kg, in milk, meat and meat products was 0.040 mg/kg. Average daily intake with whole day meal of lead was 0.05 mg/kg and of cadmium was 0.009 mg/kg.

Conclusions

National total diet study is on-going study, in the second phase we have to estimate total daily intake of specific contaminants and give recommendations for consumption for general population and vulnerable groups.

How do built environment factors affect obesity in a low-income minority community?

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Background

The obesity epidemic and associated health effects are recognized as one of the most serious and prevalent public health concerns in the United States. While behavioral and genetic factors are known to influence rates of obesity, it has recently been shown that characteristics of the built environment are also an important factor in determining obesity in individuals. The association between the built environment and health has been given some attention but several

important gaps remain, including: (i) little work has examined the influence of the built environment on the health in ethnic minority communities; and (ii) there have been few studies systematically linking built environment factors to adiposity and biomarkers.

Methods

The study area is Brownsville, Texas, United States, which has a population of 200 000 of which are 92% Mexican-American. The county where Brownsville is situated is consistently ranked as one of the five poorest counties in the United States. Utilizing geographic information systems (GIS) and multilevel modeling, this study aims: (i) to develop the most comprehensive spatial understanding to date of a homogenous minority community's built environment including healthy and unhealthy food outlets, walking trails, green spaces, etc.; and (ii) to associate built environment factors with quantitative adiposity measures of obesity and obesity-linked biomarkers. We will utilize an existing geocoded, and well-characterized cohort ($n=2000$) in a cross-sectional design.

Results

Preliminary analysis of aim one (mapping and visualization) indicates clustering of fast food restaurants around first quartile (lower income) areas, and clustering of green spaces around third quartile (more affluent) cohort participant home addresses. Current work is investigating whether the built environment factors are associated with health outcomes.

Conclusions

Our goal, through this research, is to develop a minority-community-specific model that informs policymakers on those factors in the built environment that most influence obesity. This approach has considerable potential for reduce obesity rates as well as enhancing the quality of life and health in minority communities across the United States.

Obese and non-obese patients with osteoarthritis: a comparison of functioning and outcome

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Background

The prevalence of obesity among patients with osteoarthritis is high. To find the optimal treatment it is interesting to study in which aspects obese patients with osteoarthritis differ from non-obese patients. The objective of this study was to examine the influence of obesity on (i) functioning of patients with osteoarthritis of the hip or knee and (ii) on the effectiveness of behavioral graded activity.

Methods

A cluster randomized controlled trial on the effectiveness of Behavioral Graded Activity, compared with exercise therapy according to the Dutch physiotherapy guideline, was performed. This trial involved 200 patients with hip and/or knee osteoarthritis (ACR-criteria). To compare functioning of obese (BMI >30) and non-obese patients at baseline, data on pain (VAS), fatigue (VAS) and physical function (WOMAC, walking time test) were collected and compared using Chi-square and t-tests. To analyse the differences in effectiveness of Behavioral Graded Activity, between obese and non-obese patients, multiple regression analysis was performed. Primary outcome measures were pain (VAS), physical function (WOMAC), and patient global assessment.

Results

At baseline, obese patients with osteoarthritis reported significantly more pain, fatigue, and a lower level of physical function, compared with non-obese patients. Also, obese patients performed significantly less on the walking test compared with non-obese patients. Concerning the

effectiveness of Behavioral Graded Activity, it was found that, after 65 weeks, physical function of patients with obesity improved significantly more compared with non-obese patients. No differences were found on the outcome measures pain and patient global assessment.

Conclusions

In patients with osteoarthritis, obesity is an important factor, which negatively influences functioning. Furthermore, it seems that Behavioral Graded Activity has a better outcome, compared with exercise therapy, for obese patients with osteoarthritis.

Screening and implications of depression in diabetes patients in Cluj-Napoca, Romania and Trnava, Slovakia

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Background

In order to include the screening and treatment of depression in the treatment protocols for diabetes in Romania, we need to know how big of a problem depression is and as such to know how many diabetes patients have co-morbid depression.

Methods

The study is a cross-sectional one, collecting data on depression in 1.171 diabetes patients.

Findings

Using the Patient Health Questionnaire 9, we found that of the 1.171 participants, 16.83% have major depression. However, the prevalence and severity of depression differs according to age, gender, socio-economical status, and other variables related to diabetes.

Discussion

Assessment and treatment of major depression not only predict improved sugar level control and reduced costs associated with diabetes, but also increased functioning and quality of life of the diabetes patients.

Health care professional and patient perspective in structured diabetes care

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Background

Care for the type 2 diabetes patients should be aimed at reducing total cardiovascular risk by strict glycemic, blood pressure, and lipid control, and furthermore by encouraging life style changes especially where weight control is concerned. Interventions have been implemented to organize care in such a way that it can achieve the high demands of diabetes care. For the intervention to be effective for the patients, guideline compliance of the health care professionals is important. Aim of this study is to determine if care organized according diabetes structured care guidelines leads to differences in organization of care compared with usual-care general practices.

Methods

Questionnaires were filled in by 31 health care professionals and 301 patients in the structured care group and by 11 health care professionals and 102 patients in the care-as-usual group. Questionnaires for the health care professionals consisted of questions on task division, peer consultations, and given education. Questionnaires for the patients consisted of

questions on contacts with health care professionals, received education, and checks/examinations.

Results

In the structured care group the diabetes specialist nurse (DSN) significantly more often provided insulin treatment, the diabetes passport was used more often and consultation between general practitioner, the DSN and the dietician occurred more frequently. The patients reported significantly more often that they had contact with the general practitioner, the practice nurse and the dietician and less often with the internist. The patients also reported significantly more often that they had received full education on diet and feet examination, their feet and weight were more examined/checked and they had received more often the diabetes passport.

Conclusion

The structured care leads to organizational differences in diabetes primary care which resulted in positive effects on patient level. Patients and professionals mostly agree on changes in care.

Type 2 diabetes quality of life patients treated with insulin and oral hypoglycemic medication

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The diabetes is a chronic disease leading to systemic complications and disability. WHO anticipates that until 2025 diabetes will increase by 122%. Nowadays apart from therapeutic implications more attention is paid to the quality of life (QoL).

Objective

To assess QoL depending on the choice of therapeutic methods.

Method

From total of 200 patients half ($n=100$) were treated with insulin (66% were females, mean group age 52.1), the rest ($n=100$) with oral treatment (74% females, the mean group age 63.3). For subjective assessment of QoL the WHOQOL—BREF questionnaire was used. The socio-demographical and clinical predictors were taken into account.

Results

In the second group the higher value were found in physical (SD 7.86) and environmental (SD 10.55) domain and in the psychological domain (SD 8.84) for the insulin group. The same greater values (SD = 14.50) for both groups were noted in social domain ($P=0.95$). The influence of socio-demographical and clinical predictors on QoL. The poorly controlled diabetes ($P=0.01$) and co-morbidity—heart failure ($P=0.002$) had a negative impact on the physical domain values ($R^2=0.415$) in the insulin group. In the psychological domain ($R^2=0.395$) the positive effect had frequent diabetic clinic check-ups ($P=0.01$), while the heart failure ($P=0.04$) affected that negatively. The negative impact on social domain ($R^2=0.26$) had the diet non-compliance ($P=0.003$) whereas the blood sugar level ($P=0.039$) and heart failure ($P=0.029$) on the environmental domain ($R^2=0.389$). In the second group the positive impact on the physical domain ($R^2=0.542$) had normal blood sugar level ($P=0.0005$) and place of living ($P=0.036$) while negative had an abnormal BMI ($P=0.000004$), WHR ($P=0.04$) and IHD ($P=0.0006$). The place of living positively influenced on the psychological domain ($R^2=0.567$), whereas the BMI ($P=0.0005$), IHD ($P=0.0003$), diabetic complications ($P=0.008$) and the illness duration ($P=0.007$) negatively affected on that domain. The environmental domain ($R^2=0.734$) assessment was positively influenced by good diabetes control ($P=0.0002$) and negatively by BMI >25 ($P=0.00001$), IHD ($P=0.000003$) and diabetic complications ($P=0.000009$). The same negative effect the BMI ($P=0.001$), IHD ($P=0.0001$), diabetic complications ($P=0.01$) and diabetes control ($P=0.03$) had on the social domain ($R^2=0.441$).

Conclusion

1. The better well-being of insulin treated diabetic patients was noted in physical and environmental domain whilst patients on oral medication had higher life satisfaction in psychological domain. The $P=0.95$ indicates non-statistically significant differences.

2. The diabetes-related QoL in the insulin group was negatively influenced by co-morbidity, especially heart failure and poor diabetes control but the positive impact had frequent diabetes check-up. The impact on the second group had BMI and WHR and co-morbidity particularly IHD, diabetic complications and poor diabetes clinic compliance.

Improving diabetes self-management of diabetics with a low socioeconomic status by targeting their social environment. A social network intervention in The Netherlands

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Background

In The Netherlands diabetes and related mortality are highest among people with a low socioeconomic status, including migrants. We systematically develop an intervention to improve and maintain diabetes self-management (DSM) in this population. The intervention will start in October 2009.

Methods

Intervention mapping was used to design the intervention. To define the program, a literature study, interviews with diabetics and expert consultations were carried out. Intervention effects will be measured in an RCT with 300 patients in both arms after 6, 12 and 24 months. In addition we will conduct a process evaluation and a qualitative study.

Results

Our primary study indicated that social influences within the direct social environment of diabetics with a low socioeconomic status, like cultural norms, role models and peer pressure may hinder effective DSM and maintenance of DSM. The direct social environment often lacks knowledge and tools to contribute optimally to DSM. Besides that, diabetics with a low socioeconomic status often have little or no contact with peer diabetics and therefore lack diabetes related role models and support which may help them improve and maintain their DSM. Actively working on creating permanent multilevel social support, within and outside their direct social environment, may improve DSM.

Conclusions

Providing diabetics with long lasting support by creating permanent social networks among peers, while simultaneously maximizing existing support by significant others are important intervention objectives. Diabetics will participate in

supportgroups with peers for 2 years. At the same time their direct social environment, like family and friends, will receive an intervention aimed at maximizing support for and minimizing negative social influences on DSM. This study will provide us with more insight in the ways social mechanisms contribute to self-management in chronic diseases.

Research: quality of diabetes control in Bulgaria, 2005–07

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Background

Type 2 diabetes is the most common diabetes form, a chronic widespread disease. It accounts for 90–95% of diabetics worldwide. Morbidity from diabetes mellitus in Bulgaria is about 4% of that of global population.

Methods

With the purpose of studying diabetes control in Bulgaria, the centre for scientific information to UniCardio Clinic Pleven in cooperation with several outpatient medical centers held the first large-scale study of the levels of glycemetic control by measuring the values of glycosylated haemoglobin in 32 356 registered patients diagnosed with diabetes type 2. Practically every fifth diabetic in Bulgaria was examined. The study was held within a 2-year period August 2005 to July 2007 in over 150 specialized rooms and laboratories countrywide, involving over 3000 GPs and over 300 endocrinologists.

Results

The results demonstrate poor glycemetic control in Bulgarian patients and consequently poor therapeutic results and low quality medical services in diabetes treatment. As a possible explanation the authors see the restrictions in the regular measuring of glycosylated haemoglobin related to the lack of reimbursement, the dissatisfaction of medical specialists with their work and the patients' unawareness of the disease.

The data analysis reveals that diabetes mellitus control in Bulgaria is incompliant with the guidelines of international therapeutic consensus. Possible reasons are the unsatisfactory unawareness of medical specialists and patients and the restrictive measures of the National Health Insurance Fund.

Conclusions

Disappointment with the quality of healthcare service after the start of the healthcare reform is registered in many other national surveys and studies of public and professional opinion.

Consequences of the poor quality of medical care directly affect the therapeutic outcome, moreover they indirectly lead to doctors' and patients' disincentive, which stirs denial of the healthcare reform and complete discouragement of its progress both by the professional community and by patients.

Friday 27 November, 10:30–12:00

Poster Session 5: Health promotion

Ethics in Public Health and Human Rights

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The fields of human rights and public health ethics are each concerned with promoting health and elucidating norms for action. To date, however, little has been written about the

contribution that these two justificatory frameworks can make together. This article explores how a combined approach may make a more comprehensive contribution to resolving normative health issues and to advancing a normative framework for global health action than either approach made alone. I explore in this article by first providing overviews of public health ethics and of international human rights law relevant to health and, second, by articulating complementarities between human rights and public health ethics.

Discussion

I argue that public health ethics can contribute to human rights by: (i) reinforcing the normative claims of international human rights law, (ii) strengthening advocacy for human rights, and (iii) bridging the divide between public health practitioners and human rights advocates in certain contemporary health domains. We then discuss how human rights can contribute to public health ethics by contributing to discourses on the determinants of health through: (i) definitions of the right to health and the notion of the indivisibility of rights, (ii) emphasis on the duties of states to progressively realize the health of citizens and (iii) recognition of the protection of human rights as itself a determinant of health. We also discuss the role that human rights can play for the emergent field of public health ethics by refocusing attention on the health and illness on marginalized individuals and populations.

Key points for health behavior changes of lifestyle-related disease cases in Japan in precontemplation and contemplation stages

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Introduction

The government-managed health checkup system in Japan has been changed since April, 2008. The public and private insurers are required to accomplish a high achievement of respective health checkup. The aim of this study is to collect and analyse the practical model cases of health behavior changes of lifestyle-related disease patients, especially in precontemplation and contemplation stages which dominate the achievements of the health projects.

Methods

In November 2006, a questionnaire on health education for lifestyle-related disease was distributed to the public health nurses in charge of health education in all the public health centers and the municipal health offices in all over the country. At the same time, case report on behavior change was also requested. The cases are expected as; proceeding to health checkup, joining health promotion/education program, taking preventive action, accepting advices of doctor/public health nurse/nutritionist, maintaining or improved health conditions due to advices of medical professions, and other health behavior change of lifestyle-related disease cases.

Results

One hundred and forty public health centres (collection rate: 25.9%) and 717 municipal health offices (collection rate: 38.9%) have replied. Five cases in precontemplation stage and 21 cases in contemplation stage are selected as model cases of health behavior changes. Many points are picked up from many cases. Some notes the good influence of family and peer participation and support. Lectures for a big group are often taken places, on the other hand, individual approach is reminded as a necessary approach, and the combination of both ways is also recommended. Repeated long term approach is also pointed as an important point.

Discussion and conclusions

Behavior change is not that easy. Diet therapy, exercise therapy and medical therapy are of course fundamental approach to the cases and each therapy has an established methods. It will be useful for the health professionals to be aware of as many possible ways of approach to various cases. Based on this perspective, collecting and analysis of cases of failure seems also practical and meaningful for the better approach to the cases.

The importance of lay epidemiology in promoting healthy lifestyles and behaviour in communities

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Background

The term 'lay epidemiology' denotes the processes through which lay individuals understand and interpret health risks. This article presents an analysis of how lay epidemiology can result in the rejection of public health messages because of, first, pre-existing but inaccurate factual beliefs and, second, having values that differ from public health professionals.

Methods

This study is a critical review of current UK public health policy and qualitative research in the field of lung cancer and smoking. We used the concept of lay epidemiology to: (i) review the policy documents and research findings; (ii) examine the gap between public health messages and the lay response; and (iii) reflect on how public health messages could be improved.

Results

The findings reveal various ways in which lay and professional beliefs and values may differ including:

1. Knowledge: people might have false beliefs e.g. based upon cases such as surviving smokers.
2. Scepticism: people may be justifiably sceptical of public health messages framed such that they overstate a case or even mislead. This can be reinforced by unrealistic expectations of science.
3. Values: health promotion messages sometimes proceed from factual premises e.g. smoking harms foetuses to conclusions about values e.g. 'Young mothers should not smoke'. Problems occur when these values are not shared.

Conclusions

Unless health professionals engage with and understand lay epidemiology, health promotion activity may drive people away from health services. In addition people may become further entrenched in the behaviour health professionals are seeking to change. We reflect on the relevance of these findings on social marketing, which has recently been promoted in the UK as a way of promoting healthy behaviour change.

The determinants of health in social consciousness—findings from Poland

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In the theoretical background of health promotion the great emphasis is laid on the social determinants of health. Unfortunately, in the health promotion practice the approach which is focused on changing behavior of individual is still dominant. This approach uses health education as a main instrument. One of the effects of such realizing of health promotion is critical opinion that health promoters are influenced by healthism ideology what leads to further medicalization of social life and the privatization of the efforts for better health of societies.

The presentation will be based on the results of the survey on the population sample of 1000 Poles conducted in 2008 by the Cardinal Stefan Wyszyński Institute of Cardiology.

The main aim of the research is to find out what types of the determinants of health prevail in social consciousness. Are they in accordance with the contents of health education concentrated on behavioral risk factors of the cardiovascular disease? How important for lay people are social factors in comparison with other determinants of health? For what kinds of people

are social determinants of health more important than for others?

The results of the research show that behaviors which were recognized by health promoters as those which have influence on health, such as physical activity, diet, coping with stress, abuse of alcohol as well as cigarettes smoking, were also most often pointed out by respondents as important determinants of health. However, Poles rarely recognized influence of social factors such as socialization, social capital, economical status. An analysis shows that people who are more individualistic than others are less prone to perceive influence of social factors.

The results of research suggest that health education concentrated on changing lifestyle have had effects on people's consciousness.

Gender gaps in healthy life years within the EU

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Objective

To evaluate the contribution of macro-level factors (MLF) to gender gaps in healthy life years (HLY) within the EU member states (MS).

Methods

The Sullivan method is used and requires the age-specific prevalence of disability (SILC-2005) and a standard life table. MLF were selected to cover areas of wealth and expenditure, labour force participation and level of education. Difference in gender gap between the MS was explored through meta-regression using country level indicators of the MLF.

Results

The association of the macro-level indicators (MLI) was stronger for the gender gap in life expectancy (LE). There is a positive association between the size of the gender gap in LE and HLY. The effect of MLI on the gender gap in HLY is heterogeneous between EU15 (older EU MS) and the EU10. In the EU15, the gender gap in HLY is smaller in function of a decreasing inequality in income, a lower proportion of the percentage of the population with a low education and a lower mean exit age from labour among men. In the EU10, the gender gap in HLY is reduced with increasing expenditure of elderly care, a decreasing risk for poverty at older ages and decreasing unemployment rate in the older populations. The association between gender gaps and GDP, expenditure, poverty and employment rate of older women is significantly different between EU15 and EU10.

Discussion

Difference in the gender gap in HLY may be related to the evolution of the population health. The effect of MLF on the gender gap in HLY is probably not causal. The indicators are reflecting the current situation whereas the HLY and LE contains the history and experience of different cohorts throughout life.

Tobacco consumption in the portuguese population

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Background

Portugal has one of the lowest prevalences of smokers in Europe. However, prevalence is rising in younger women. This study aims to contribute to the epidemiological portrayal of tobacco consumption in the Portuguese population during the 2005–06 period, using data collected by the National Health Survey.

Methods

In this analysis the Portuguese population is characterized according to smoking habits, tobacco exposure and general behaviours concerning tobacco consumption. Data is presented by gender, by age groups, by regions of residence and other social characteristics. Presented frequencies do correspond to estimated values for the Portuguese population in 2005. Logistic binary regression allowed the identification of daily-smokers profiles.

Results

Results show that 20.9% of Portuguese inhabitants aged 15 years or more (including autonomous regions) were smokers (male: 30.9%; female: 11.8%), and that 18.7% were daily smokers. More than one half of men were smokers or former smokers (56.9%), inversely to the great majority of women who had never experienced smoking (81.3%). Once removed the effect of the different age structures among regions, the highest daily-smoking prevalence in men was observed in Açores region (31.0%), followed by the Alentejo region (29.9%). The highest daily-smoking prevalence in women occurred in Lisboa and Vale do Tejo region (15.4%), followed by the Algarve region (12.8%). Daily average cigarettes consumption was higher among male smokers (20 cigarettes) than amongst female smokers (13 cigarettes). The Açores population presented the highest daily average consumptions (male: 23 cigarettes; female: 16 cigarettes). Only 10.9% of male non-smokers and 11.6% of female non-smokers reported asking always or very frequently to smokers not to smoke on their presence. On the other hand, only 27.1% of male smokers and 36.5% of female smokers reported always avoiding to smoke in the presence of non-smokers.

Conclusions

Prevalence of smokers is still rising among Portuguese women, despite evidence on these trend is available since 1995/96. Some regions in Portugal should deserve extra attention regarding high prevalence of tobacco use.

Trends of smoking prevalence of Lithuanian adult population in relation to education/background throughout 1994–2008

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Background

The aim of the study was to evaluate/estimate the trends of smoking prevalence of Lithuanian adult population in relation to gender, age, education/background.

Methods

The study analyses data of Lithuanian adult population health behaviour surveys, performed in period of 1994–2008. Since 1994 eight cross-sectional surveys have been conducted among adult population aged 20–64 years within the international FINBALT HEALTH MONITOR project. For every survey the national random sample of 3000 inhabitants was taken from the National Population Register. The study material was collected through mailed questionnaires covering socio-demographic characteristics, health behaviours, smoking habits. Smokers were defined as daily smokers.

Results

In period of 1994–2000 prevalence of smoking was increasing in both genders, reaching the peaks among men in range of 51.6%, and among women 16%. Male smoking prevalence begins to decline from 2000, while prevalence of women smoking remains stable from the year 2000. There was an increase of quit rates in period of 1994–2008 in both genders. Smoking was generally more common among younger, less educated men, but among women this association is less consistent. Higher educated man more often were occasionally smokers.

Conclusions

Smoking prevalence was associated with age, gender and education. Higher smoking quit rates were observed among men with higher education. Higher education was also associated with occasional smoking rather than regular smoking.

Physical activity and outdoor recreation as a method in promoting health

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Eastern Norway Research Institute [ØF] conducted an evaluation study in collaboration with Fron Rehabilitation Centre [FR], Norway in 2008–09. FR provides a salutogenetic, holistic view on health that emphasizes physical activity and outdoor recreation as part of their treatment and rehabilitation programme. During a 4-week long stay at FR the participants are offered two sessions of physical activity and nature experiences during the day. Main objective: To evaluate health, quality of life, and function among participant's at FR after 4 weeks, and to increase knowledge on which methods may contribute to rehabilitation. This qualitative evaluation study includes 38 participants, aged 23–60 years, and their subjective opinions and life experiences. Two in-depth interviews, first and fourth week, were conducted. The participants were suffering from long term illness; e.g. muscular disease, burn-out or mental problems, and represent low-socio economic background. There were three main factors that seemed to contribute to recovery and better health. (i) Physical activity and outdoor experience along with the outstanding views, closeness to the forest, mountain tracks and cultural landscape and footpaths. (ii) The social environment and staff. (iii) How they learn to adopt a new lifestyle. The participants increased self-awareness and consciousness towards the importance of physical activity contributed to feelings of well-being, self-recovery and self-efficacy giving renewed strength, energy and vitality. Outdoor activities constructed a sense of coherence and meaning, often portrayed as 'high points', and seem to have activated a 'need' towards a new lifestyle helping them to return to work and achieve better health. FRs salutogenetic and holistic approach to health including physical activity and outdoor recreation may help the participants to construct a meaning, identify coping mechanisms and revitalize the energetic and resourceful parts of self. Maintaining self and cultivating strategies of self-care in everyday life are a vital part of a rehabilitation programme, hence promoting health. Further research could try to understand how such activities come to be linked with well-being—and to understand more fully the practices that lead to this outcome.

Evaluating promising interventions to stimulate physical activity in the population

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Background

Physical inactivity involves major health risks in the Western community. In order to encourage people to adopt an active and healthy lifestyle, the Dutch government has introduced 'The National Action Plan for Sports and Exercise (NASB)'. One of the goals of this action plan is the dissemination of successful interventions aimed at promoting an active lifestyle, specifically focussing on the less active members of the community. In the upcoming years, so called 'inactive municipalities' receive financial support to implement local 'physical activity interventions'. Municipalities should be able

to choose an intervention from a list of interventions, fitting the population they want to stimulate. In this study, an inventory of interventions was made.

Methods

Through several sources, physical activity interventions were recruited for the study. A list of criteria related to relevance, theoretical basis, effectiveness, costs and feasibility of physical activity interventions was developed, based on (inter)national literature. The interventions were assessed with this list of criteria and an overview was made for municipalities (<http://www.nasb.nl>). Interventions were categorized into 'leaders', 'pursuers' and 'pack'. After 6 months, representatives of municipalities were asked for their opinion on this overview.

Results

Fifty-three relevant interventions were found. Of the eight leaders, not only relevance and feasibility had high scores, but effectiveness was also established by means of scientific research. The 12 pursuers scored high on feasibility, while effectiveness was not investigated yet. For the other 33 interventions (pack), several improvements were necessary. Preliminary results show that municipalities were positive about the overview presented and made use of it, selecting interventions for their population.

Conclusion

There are many interventions available, but these are only moderately founded. Further studies into the theoretical basis and effectiveness of interventions aimed at enhancing physical activity are needed.

Health promotion and the internet: a content analysis of the official websites of Italian Public Health Authorities

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Background

The actual great spread of internet allows an unprecedented access to health information, with great potential consequences on patients, doctors and health organizations. Aim of the study is to analyse all the official websites of the public Local Health Authorities (LHA) of Italy, in order to evaluate their characteristics and their completeness, focusing specifically on the health promotion issue and on health service users involvement.

Methods

Starting up from the list of LHAs of the Health Ministry, an ad hoc Codebook was elaborated in order to analyse their official websites, according to the content analysis method. We investigated LHAs general characteristics, as geographical area and number of assisted people, websites technical characteristics, as accessibility and transparency, and presence in the websites of services and contents of health promotion. The study was performed in January and February 2009.

Results

Out of the total of 187 Italian LHAs, the sample frame comprised 177 official websites, which resulted functioning during the study period. Regarding to technical characteristics, accessibility tools (internal search engine, site map) were found more often than transparency tools (quality markers, time of the last update). Almost all the websites had pages dedicated to prevention services, and often was indicated a contact reference. In only 6 websites was present a forum. Health promotion contents were more often present, more accessible from the home page and more numerous in the websites of Northern area LHAs.

Conclusions

Almost all LHAs resulted to have a functioning official website. Anyway, Italian LHAs currently use their websites as provider of 'cold' information, not making the most by internet, a communication mean which the greater potentiality is interactivity and the subsequent chance to tailor messages, besides the opportunity to improve services quality through a direct feedback from the users.

Integrated programs on urban and regional health

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Issue

Concerning the protection and promotion of health, a large numbers of topics is pursued on local/regional levels in Europe. In addition to traditional approaches there are 'integrated programs' which work across multiple groups and diseases and aim at comprehensive solutions.

Approach/methods

Starting from an existing synopsis (2005), three such programs were selected: German Healthy Cities network (GSN), Regions for Health Network (RHN) and Network of German Health Regions (NDGR). Descriptive (qualitative and quantitative) criteria were identified and, using published information sources and the authors' expert knowledge, applied to characterize the programs.

Results

Both GSN (initiated in 1989) and RHN (1992) are primarily based on the Ottawa Charter and 'Health in all Policies' thinking and targeted towards health policy-makers, authorities and citizens. NDGR (2008) focuses on health innovations to improve health care, prevention and health promotion; the target group also includes economic policy-makers and health business managers. GSN currently has 67 members in Germany (similar networks existing abroad); RHN consists of ~30 regions in Europe, NDGR of 15 regions in Germany with more than 1.000 health-related enterprises. GSN features 'centers of competence' (e.g. on urban development); the bi-annual Healthy Cities prize pays tribute to outstanding projects. RHN engages in (EC-) funded projects, e.g. on benchmarking regional health management ('BEN') and contributed theses on 'Regional health and wealth' to the 2008 European Conference on Health Systems. NDGR's focus groups work on a range of topics, incl. technological innovations, new professions, and international cooperation (current focus: India).

Conclusions

Given the rising engagement for better health on local/regional level, there is a strong case for integrated programs such as GSN, RHN and NDGR. It is a constant challenge for all such programs to continuously adjust their missions adequately. All three programs care about 'health innovations', with NDGR contributing a particularly strong economic orientation. This may inspire activities across integrated programs, complementing the more traditional approaches towards health and well-being.

Ten D by Night (Dark, Dance, Disco, Dose, Drugs, Drive, Danger, Damage, Disability, Death): a European multicentric cross-sectional study

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Background

Alcohol and psychoactive substances play a major role in causing road accidents, particularly among young people during weekends. The aim is to define a European approach to reduce related road accidents among young drivers.

Methods

Belgium, Bulgaria, Italy, Latvia, Poland and Spain have been involved in the project, funded by European Community (EC) on Public Health programme. The partners are currently recruiting a sample of 6000 drivers (16–24 years old) attending disco-clubs during weekends. A multidisciplinary team administers to participants two specific questionnaires, two alcohol tests and two reaction time tests (with a driving simulator) at the entrance and exit of the club, along with a multi-drug test at the exit. In every country, a pilot study has been carried out.

Results

One hundred and sixty-two subjects have been enrolled in pilot studies (75.9% male). The overall alcohol test mean score has been 0.36 g/l (SD 0.56) at the entrance and 0.51 g/l (SD 0.64) at the exit of the clubs, while the average reaction time has been 0.67s (SD 0.23) at the entrance and 0.70 s (SD 0.32) at the exit. The detected consumption of psychoactive substances has been negligible. 20% of subjects have driven in the last month under alcohol effect and 7% reported a traffic accident in the same condition.

Individuals with alcohol level higher with respect to law limits (0.5 g/l) had a higher risk of slow reaction time (OR 1.48, 95% CI 0.66–3.32), even if the result is not statistically significant.

Conclusions

The preliminary results confirm the effect of alcohol on driving reaction time and show a large percentage of participants not considering it as a potential risk for driving performance. These findings should increase our efforts for improving young drivers' awareness about the dangerous effects of alcohol and should encourage the implementation of European shared actions. Further data analysis may add insights on driving behaviors and consumption habits of the youth and help planning more tailored preventive programs.

The Everywhere Project: A European methodological model of HIV prevention in men who have sex with men (2008–2010)

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Increasing globalization means that the need to incorporate the European/International Dimension is ever more important when considering public health strategy development and implementation. With regards HIV prevention, this is crucial to understand fully the plethora of issues concerned in the development of relevant, culturally sensitive, and effective health promotion and public health strategies.

New HIV infections in the European Union are rising, and men who have sex with men (MSM) are one of the key 'at risk' groups. Gay tourism is a widespread phenomenon with the internet increasingly facilitating access to recreational opportunities in countries other than those of residence; consequently, a significant number of men looking to have sex with other men travel. Co-funded by the European Commission, the Everywhere project (2008–2010) aims to raise awareness within MSM of HIV prevention messages by joining forces with different businesses sectors associated with gay tourism and entertainment in Europe. The project aims to develop and validate an innovative and culturally adapted

European model of good practice of HIV prevention in MSM by: (i) creating and training a network of social mediators to identify, access, and achieve the commitment of business sector in the prevention of HIV in MSM; (ii) developing a series of action protocols for business owners, the adoption of which will certify the business as being socially responsible venues in HIV prevention.

Preliminary questionnaire and interview data suggest that the Everywhere Project is an important opportunity to evaluate and improve local HIV operational interventions in MSM, by utilizing learning from across Europe to form common strategies and synergies. Whilst the cultural, historical, political, economical and legal differences between the different countries of Europe are important challenges for the project, these same challenges also present opportunities for cross cultural transfer of knowledge between partners and more widely across Europe.

Bridging the gap between needs and help offer addresses to drug users in North-West Poland. Risks and responses identified by Rapid Policy Assessment Study

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Background

Rapid policy assessment and response (RPAR) of drug law and policy in and around the city of Szczecin, West Pomerania, Poland identified policy and policy implementation barriers to HIV prevention and aimed at mobilizing local knowledge for change.

Methods

In 2005 a team of Polish researchers conducted legal research, collected epidemiological and criminal justice data, and conducted 40 qualitative interviews with key informants experienced with drug use and the lives of drug users. With a Community Action Board (CAB), the team analysed results and drafted a Final Report and Action Plan that became part of the official local municipal program to prevent drug use.

Results

Findings of the RPAR included a reported overall decline in user expertise about and use of 'Polish heroin', or kompot, increased presence and use of synthetic drugs including 'club drugs' and amphetamine, and, most importantly, indications of an unrecognized outbreak of rural amphetamine injection among young people in areas lacking sufficient drug treatment, harm reduction and disease control services.

Conclusions

The RPAR facilitated timely identification of changes in drug use and poor allocation of services. Community acceptance of RPAR allowed researchers to integrate RPAR findings and methods into a national program implementing a new law on local drug abuse prevention and treatment. Local, community-based research can play an important role in identifying and mobilizing action to address the spread of HIV/AIDS and hepatitis in times of rapid social and economic change.

Pilot implementation of a problem-oriented approach aimed to improve mothers' knowledge, attitude and skills to evaluate medicine advertisements through a grass-root Family Welfare Movement (PKK) Women Organization as agent of change

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Background

Many non-prescription medicines are advertised widely to general public in various kinds of media. Since objective information on medicine advertisements are often scarce, advertisements may affect people's perception and have potential harmful effect for individual and public health. Therefore, the community needs to be equipped with skills to critically evaluating information about medicine from advertisements.

Objectives

To improve knowledge, attitude and skills of participants in critically evaluating printed and audiovisual medicine advertisements, in a problem oriented approach.

Method

The study utilized pre and post intervention with control group design. The intervention was called Critical Evaluation Medicine Advertisement by the community (CEMA-community). It was developed based on the previous study targeted to medical students (Essential Drugs Monitor, 1997: 23; 23) with modifications on the content. The CEMA-community activity consisted a brief lecture and small group discussions in problem-oriented approach. Radio and television advertisements records were displayed by means of portable computer. Data on knowledge and attitudes were obtained by questionnaires. Data on skills was assessed by the number of inappropriate claims they could identify the advertisements. All data was collected at baseline and immediately, 2 and 4 weeks after intervention. Effectiveness of approach was shown by the significance of increasing level of knowledge, attitude and skills of the post intervention. In depth interview among participants indicated feasibility of the approach.

Results

Participants' knowledge and skills improved significantly in the CEMA-community group immediately after intervention and this was maintained at the 2 and 4 weeks follow up. Participants expressed that they enjoyed the activity, they said it was easy to follow, and requested more time in the future allowing them learning more advertisements.

Conclusion

CEMA-community was proven very effective in increasing knowledge and skills to critically evaluate medicine advertisements. CEMA-community also feasible to be implemented among Yogyakarta PKK organization members.

Statin prescribing in the City of Zagreb (2001–08) and their role in secondary prevention of cardiovascular events

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Background

Cardiovascular drugs account for 40% of total outpatient drug utilization in the City of Zagreb. Among them, utilization of the group of hypolipemics showed greatest rise from 2001 to 2008. The aim of the study was to investigate outpatient utilization of hypolipemics in the City of Zagreb during the 2001–2008 period and to assess the quality of prescribing these drugs in primary health care.

Methods

The number of defined daily doses (DDD) and DDD per 1000 inhabitants per day (DDD/1000/day) were calculated on the basis of data, from all Croatian pharmacist, on the number of packages of each individual hypolipemic (C10) for each study year. Data on the rate of hospitalization for the leading cardiovascular complications were collected from all Croatian hospitals, as indirect indicators of the quality of prescribing statins.

Results

The utilization of hypolipemics was 33.03 DDD/1000/day in 2001 and 85.38 DDD/1000/day in 2008, yielding an almost twofold rise. Two drugs, simvastatin and atorvastatin, predominated in the utilization of statins with 93%. From 2001 to 2008, the utilization of simvastatin showed a 30% increase and that of atorvastatin more than sevenfold increase. During the study period, the overall rate of hospitalization for cardiovascular disorders decreased by 18.5%, cerebrovascular insult rate decrease 32%, acute myocardial infarction rate decreased 27%, and hypertension rate increased 8.5%.

Conclusion

The decreasing tendency recorded in hospitalization for cardiovascular diseases points to the improved quality of secondary prevention, including statins. The growing trend observed in the utilization of atorvastatin vs. simvastatin is indicative of the still inappropriate prescribing practice, whereas the high rate of hospitalization for hypertension reflects inadequate primary prevention of cardiovascular disorders.

p73 G4C14-to-A4T14 gene polymorphism and interaction with p53 exon 4 Arg72Pro on cancer susceptibility: a meta-analysis of the literature

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Background

P73 gene (1p36-33) is involved in cancer development through cell growth inhibition by inducing apoptosis in a p53-like manner. p73 G4C14-to-A4T14 dinucleotide polymorphism has been extensively studied in association with cancer over the past years, with conflicting results. Our meta-analysis aimed to assess the overall effect of p73 G4C14-to-A4T14 polymorphism on cancer risk and its interaction with demographic data, lifestyle habits and p53 exon4 Arg72Pro polymorphism.

Methods

We searched for studies investigating the association between p73 G4C14-to-A4T14 polymorphism and cancer on Medline and Embase up to June 2008. In addition individual level data were collected from the published studies.

Results

From the meta-analysis including data from 16 case-control studies (5145 cancer cases and 5135 controls), an increased risk for cancer in any site was found to be associated with the inheritance of the p73 homozygous variant genotype (AT/AT) [odds ratio (OR) 1.28 (95% CI 0.98-1.67)].

By stratifying the effect of p73 AT/AT on cancer according to p53 exon 4 Arg72Pro status, a 2.15-fold increased risk (95% CI, 1.27-3.64) was observed for individuals both p73 variant homozygotes and p53 exon 4 heterozygotes if compared with wild-type p73 allele carriers, suggesting biological synergism among the two polymorphisms. No evidence of an effect modification of p73 AT/AT by age, gender, ethnic group or smoking status resulted from the subgroup meta-analyses.

Conclusions

This quantitative review showed that the p73 G4C14-to-A4T14 homozygous variant genotype might be a risk factor for cancer, especially in combination with p53 exon 4 Arg72Pro polymorphism.

Further studies looking at p73 G4C14-to-A4T14 and p53 exon4 Arg72Pro interaction together with functional reports on the interaction among p73 and p53 proteins are required to confirm our findings.

The methodology used for Bayesian estimation of aggregate measures using the EURO-URHIS Dataset

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Background

The EURO-URHIS project (<http://www.urhis.eu>) collected data to complete Disability Adjusted Life Years (DALYs) prevented, Healthy Life Years (HLY), Life expectancy (LE) and Population Impact Measures (PIMS) of specific risk factor and diseases for a number of European cities. Problems associated with these methods include issues in comparability of these data between different units (cities) inherent to the use of aggregate measures and their underlying assumptions, and the absence of measures of precision in the presented impact measures. Bayesian framework methods can be used to provide additional information on the sources and magnitude of error underlying the estimation of these impact measures.

Method

A Bayesian framework will be described using data on DALYs prevented and PIMs for the effect of improving smoking cessation and ischaemic heart disease.

Results

Comparing the frequentist approach to the Bayesian framework applying different prior assumptions, differences in comparability between units and within and between-unit variability were identified that would not have been addressed using the frequentist methods.

Conclusion

Bayesian methods provide additional information about the presented impact measures that should be taken into account in priority setting scenarios. However, the validity of the presented methods depends on the quality of the collected data.

Efforts towards integrating local urban health issues into scientific meetings in five cities—Lessons from a series of workshops in 2008

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Issue/problem

Participants of health-related scientific meetings, even when discussing urban health issues, often do not take notice of the specific local health situation at the hosting city, nor get in touch with local experts and other representatives, beyond occasional excursions and 'social program' elements.

Approach/methods

An attempt was started to identify current urban health issues of the cities where meetings took place, and to integrate them into the respective meeting programmes. By submission of regular abstracts, it was suggested to meeting organizers to hold an urban health workshop, using the hosting city as an example and involving local representatives. Four of the meetings were annual conferences of professional associations, taking place in Hannover (pop 520 K), Bielefeld (326 K), Bad Kissingen (city 22 K, county 108 K) (all in D), and

Graz (290 K) (A), the fifth belonged to a series of meetings on Health Impact Assessment, taking place in Liverpool (435 K) (UK).

Results/effects

In four of the five submissions, the proposals were accepted. In two cases, just one oral presentation was given; in one case, it was two oral presentations; and in one case a full workshop (which was, however, placed outside the regular meeting program) plus poster presentation. Local involvement ranged from 'none' over 'written comment' to one local presentation and, in one case, even three of them. Attendance by meeting participants was generally high (~15 and more), only the workshop placed outside the regular program received little attendance. In one case, the local speaker reported that a federal 'burden of disease' study had identified this locality as a high-risk area, and suggested that the experts gathered here might contribute to a critical dialogue.

Lessons/conclusions

The results show that it is feasible to include hosting cities' own local urban health issues into meeting programs; that local representatives can be involved in this; and that such contributions meet with interest. From this small series, however, it is not possible to deduce the factors determining if local representatives agree to participate. The combination of 'outside' with 'inside' view could prove useful for developing performance assessment procedures in the future.

Some experiences emerging from the WHO Healthy Cities Project (preliminary results of the Lodz study)

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The WHO Healthy Cities Project proposes highly useful approaches for community development and health development planning, which meet modern trends.

Now 81 European towns from 28 countries are involved in this project.

In March and April 2009, we carried out research study aimed at gathering data from these towns so as to compare the areas, the scope and the progress achieved in them regarding the project's objectives. We used a questionnaire with 13 closed and semi-open questions we sent by regular post and—in some cases—by electronic post. As of 30th April, we had received 17 filled questionnaires signed by Healthy Cities Project coordinators in the selected countries. In our research tools we asked about many problems, and in particular about:

- the most important activities undertaken the previous year within the project,
- the most effective activities,
- the manner in which the city authorities participate in the project,
- the means of fund-raising for the project implementation,
- the role of the local community and private sector participation,
- the factors contributing to the successful development of the project,
- the greatest benefits arising from the project in a given city,
- the problems occurred in the Healthy Cities Project's implementation,
- the need—if necessary—to modify this project.

The questionnaires received up to now confirmed our assumption. In towns under study, the diversity of actions undertaken in the framework of the project has been revealed, some of them being crucial for the health of inhabitants, others of smaller importance. It is to be stated here that the interviewed coordinators pointed out that the programme is automatically modified all the time because of new challenges arising. We would like to underline that apart from the questionnaires, we received valuable additional materials (PowerPoint presentations, video recordings, etc.).

Poster Session 6: Inequalities and migrant health

Relative income and acute coronary syndrome: A population-based case-control study in Tirana, Albania

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Background

Evidence from eastern European countries suggested that ill-health may be more closely related to absolute than to relative deprivation. Recent reports, however, point to both absolute and relative deprivation playing a role. We assessed the association of acute coronary syndrome (ACS) with self-reported relative income in Albania, a country undergoing transition from harsh Stalinist communism to a free market economy.

Methods

A population-based case-control study was conducted in Tirana, the Albanian capital, in 2003–06. 467 non-fatal consecutive ACS patients were recruited (370 men aged 59.1 ± 8.7 years, 97 women 63.3 ± 7.1 years; 88% response). The population-sampled control group comprised 737 individuals (469 men aged 53.1 ± 10.4 years, 268 women aged 54.0 ± 10.9 years; 69% response). Information on relative income, educational level, employment status and subjective

social position and conventional coronary risk factors (smoking, exercise, hypertension, diabetes and family history) was obtained by structured questionnaire. Height, weight and waist and hip circumferences were measured. Multivariable-adjusted logistic regression was used to assess the independent association of relative income with ACS.

Results

In the control group, 58% of men and women reported a higher income than the national average, and 23–24% reported they occupied an upper social position. In age-adjusted models, relative income was inversely associated with ACS in both sexes, more so in women than men [sex-pooled odds ratio (OR) for lower vs. higher income = 1.75, 95% confidence interval (CI) 1.19–2.55; OR for middle vs. higher income = 0.81, 95% CI 0.59–1.10, overall $P < 0.01$; P for sex-interaction: 0.02]. Adjustment for covariates slightly accentuated the estimates in men and somewhat diminished them in women (sex-pooled OR 2.05, 95% CI 1.12–3.74 and OR 0.99, 95% CI 0.66–1.47, respectively, overall $P = 0.04$; P for sex-interaction: 0.16).

Conclusions

Relative income is associated with ACS in transitional Albania. Women may be more strongly affected than men. This relative measure appears to be a useful predictor of adverse coronary health in transitional countries of Southeast Europe.

Socio-economic factors, ethnicity and alcohol-related mortality in regions of Slovakia. What might tree analysis add to our understanding?

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Background

Alcohol is a major determinant of premature death, particularly in Central Europe. Regional differences in alcohol-related mortality might reflect strong socio-economic differences between regions. The aim of this study is to explore this relationship.

Methods

Selected area characteristics (proportion of inhabitants with tertiary education, unemployment, Roma ethnicity, average income) and regional differences in alcohol-related mortality for inhabitants aged 20–64 years in the period 2001–03 were explored in all 79 districts of the Slovak Republic. Linear regression analysis and a non-parametric regression tree analysis were used separately for males and females.

Results

Socio-economic differences in regional alcohol-related mortality were found among males, but not among females. Aside from a region's proportion of Roma inhabitants, the crude effect of all socio-economic variables explored were significant for explaining from 11.1 to 18.2% of the variance. The model exploring the mutually adjusted effect revealed slightly different results, including a significant effect of the ethnicity measure, explaining 30.3% of the variance.

Using the tree analyses, districts were divided into four groups, mentioned in ascending order with regard to average male mortality rate: districts with (i) a high proportion of tertiary educated (avgSMR = 1.404), (ii) a low proportion of tertiary educated and high proportion of Roma (avgSMR = 1.572), (iii) a low proportion of tertiary educated, low proportion Roma and low proportion of unemployed (avgSMR = 1.671), and finally (iv) a low proportion of tertiary educated, low proportion Roma and high proportion of unemployed (avgSMR = 2.145). A district's unemployment rate was assumed to be the strongest predictor of the outcome measure.

Conclusion

Male, but not female, alcohol-related mortality was associated with the socio-economic characteristics of a district. The unemployment rate and low education appeared as important determinants of regional alcohol-related mortality, while the proportion of Roma and income were not significantly associated with alcohol-related mortality among males in Slovak districts.

Spatial mortality disparities among unemployed individuals in Gdansk City and Gdansk County, 1999–2004

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Background

The identification and documentation of health disparities are important functions of public health surveillance. These disparities, typically related to social class, are often made visible in urban settings as geographic disparities in health between neighborhoods.

Methods

Recognizing that mortality is a powerful indicator of disparities in both health status and access to health care that can readily be monitored using routinely available public health surveillance data, we analyse geographic differentials in survival among 47 247 unemployed individuals in Gdansk City and Gdansk County registered in Labour Office in period 1999–2004.

Results

We estimated that the risk of death among unemployed population varied significantly between different quarters of the city. Age and sex adjusted hazard ratio was 3.28 times higher (95% confidence interval 1.18–9.12) among unemployed persons living in the most economically deprived quarter compared with those living in the least impoverished area. We developed GIS maps showing variation in mortality across different quarters of Gdansk City and different communities of Gdansk County.

Conclusions

Our results provide evidence on residential segregation that affects socio-economic determinants of mortality in Poland. These findings may have implications for specific social and public health policy aiming to improve the health of the deprived communities.

Impact of length of stay, legal status and the other social demographics determinants in use of health care services by migrants

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Background

The greater diversity of population resulting from migratory flows pose new challenges to the host countries, namely in national health care systems.

Immigrant's access to appropriate health services contributes to an improvement in the level of health of these communities, to a better quality of life and to their integration in the host country.

However, there is lack of data about use of health care services by migrants and about social demographic determinants in use to health care services. Actually there is an increasing recognition of the need to improve knowledge about multiple determinants of the use of health services.

This study aimed to analyse the impact of length of stay, legal status, and other social demographic determinants in use of health care.

Methods

A community-based survey was conducted to obtain a sample of 1152 immigrant communities of African origin, Brazilian and Countries of Eastern. Data was collected through questionnaires developed specifically for this study, administered by trained interviewers. The social demographics determinants analysed were legal status, length of stay, age, sex, education level and country of origin.

Results

Our results suggest that factors associated to the use of health services differ between migrants groups: African, Brazilian and Eastern Europe. Consistent with literature, legal status, length of stay and the other social demographic factor are an important impact in use of health care services.

Access to and actual utilization of health services is the result of a complex net of determinants. It largely depends on how a society is able to create a user-friendly environment for migrants and to overcome the socio-economic and subtle cultural or psychological barriers that may limit people's ability to receive care.

Conclusions

The conclusions can support the development of strategies that can promote access to health services, reduce health inequalities and have a positive impact in immigrant's health.

Socio-economic position and incidence of myocardial infarction: meta-analysis

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Background

Adverse socio-economic position could be associated with higher incidence of acute myocardial infarction (AMI). Our aim was to investigate the social patterning of AMI incidence via conducting a systematic review using meta-analysis to gather evidence from the existing studies on the issue.

Methods

We conducted a systematic search in PubMed and EMBASE for articles published in English through 1 April 2009. Articles were selected for inclusion if (i) utilized case-control or cohort methodology; (ii) considered AMI as an outcome; (iii) presented risk estimates for the association between AMI incidence and at least one measure of socio-economic position (SEP): education attainment, occupational category or income. Random-effects model was used to pool the risks estimates from the individual studies.

Results

We identified 66 articles containing, in total, 72 original studies: 37 case-control and 35 cohorts. We observed an overall increase in AMI incidence among people with low educational (34%), low occupational (34%), and low income-based SEP (68%). The associations were significant for both males and females. The lowest SEP in high-income countries presented a strong increase in AMI incidence, while in lower-income countries, particularly from Asian region, social gradient was less apparent. No publication bias were identified for studies on educational and occupational SEP, but studies on income introduced potential bias.

Conclusion

AMI incidence was associated with the lowest SEP. These associations point out the importance of social position to be addressed in all discussions on AMI preventive measures. The economic resources of a country could contribute to the differences in risk of AMI between the social groups.

Socio-economic inequalities in health: a panel study among employees 2000–2007

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It is a common observation that higher social position is connected to better health. However, panel studies on changes over time in the health inequalities are scarce. The aim of this study was to examine how inequalities between occupational classes have changed from the years 2000–02 to year 2007 while following up a cohort of middle-aged municipal employees, and what are the key determinants of the changes.

The baseline survey was conducted in 2000–02 among employees of the City of Helsinki, aged 40–60 years (response rate 67%). The follow-up survey was conducted among the baseline respondents in 2007 ($N=7332$, response rate 83%). Socio-economic position was measured by occupational class, divided to four categories. Health was measured by the Short

Form 36 (SF-36) inventory. The changes of health inequalities were assessed by comparing age-adjusted means, and their determinants were examined with linear regression analysis. Occupational class inequalities in health were clear at baseline. In women the SF-36-scores ranged from 50.5 in the highest class to 47.1 in the lowest one, and in men from 52.3 to 48.9, where higher scores indicate better health. Deterioration of health between the surveys was more pronounced in the lower occupational classes, and therefore inequalities in health widened during the follow-up. The differences in health trajectories between occupational classes were partly explained by health behaviours and physical demands of work.

We conclude that occupational class inequalities in health tend to widen over time among ageing employees. Physical working conditions and health behaviours contribute to this widening. This study suggests that policy measures tackling health inequalities should focus on health behaviours and physical working conditions in the lower occupational classes.

Project to develop a regional network addressing health inequalities and social determinants of health through international collaboration, England, 2009

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Issue/problem

This abstract describes an ongoing project to develop a United Kingdom (UK) regional network to address health inequalities and social determinants of health through international collaboration.

In response to the World Health Organisation's Commission on Social Determinants of Health (SDH) final report 'Closing the Gap in a Generation' in August 2008, the Department of Health in England has commissioned a portfolio of capacity building projects which includes the establishment of a UK regional network to contribute to and learn from European and global health policies and programmes that directly address health inequalities and social determinants of health.

Description of the problem

Questionnaires and workshops are scoping current UK regional level involvement and activity in European and global health inequality and social determinants of health partnerships. The findings will be used to shape and establish a UK regional SDH network to be launched in spring/summer 2009.

Results (effects/changes)

Results so far indicate that there is currently limited but seemingly beneficial international collaboration between UK regions and international counterparts to tackle health inequalities and social determinants of health. The UK regions are keen to strengthen these international links and provided this leads to practical and pragmatic solutions and actions.

Lessons

In an expanding global environment, public health networks that strengthen UK regional and international co-operation can play a significant role in tackling health inequalities and social determinants of health both in the UK and abroad.

The role and work of the English National and Regional Support Teams in tackling health inequalities, England, 2009

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Issue/problem

The United Kingdom Government's Public Service Agreement produced targets to reduce health inequalities by 10% by 2010

as measured by infant mortality (1997–99 baseline) and life expectancy at birth (1995–97 baseline). The English National Support Team and East Midlands Regional Support Team for Health Inequalities provide support to primary care trusts and their partners i.e. local health communities in England to deliver against the 2010 life-expectancy targets.

Description of the problem

The English National and Regional Support Teams carry out external peer-review visits to local health communities to help identify interventions that can reduce the life expectancy gap. This includes recommendations aimed at improving service outcomes and facilitating local populations to use and be supported to use those services.

Results (effects/changes)

The English National Support Team has visited over 30 local health communities, and the East Midlands Regional Support Team has visited four. Follow-up visits after 6 months have in each case shown very substantial changes to planning and delivery in line with key recommendations.

Lessons

The English National and Regional Support Teams for Tackling Health Inequalities provide valuable support to local health communities in England to address health inequalities. There are plans to expand the methodology currently used to increase the focus on social determinants of health. The methodology used in England may be transferable to other countries to help address health inequalities.

A 'health broker role' to promote health in deprived Dutch neighbourhoods: experiences in the first year of a collaborative pilot study (2007–08)

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Background

Establishing successful local health promotion initiatives is not unproblematic. An analysis of more prosperous local health promotion programs learned that a public social entrepreneur, acting as a 'change agent', could play an essential part in their success.

Methods

This collaborative study explored the possibilities of establishing such a role in four Dutch municipalities as an additional investment to promote health in deprived neighbourhoods. The theoretical notions of public and policy entrepreneur as well as the concept of boundary spanning were adopted as reference framework for the study. Documents produced by the collaboration served as input for a qualitative analysis of the developments.

Results

It was possible to implement within the health care sector a 'health broker role' comparable with that of a bureaucratic public entrepreneur. Although holding relatively little mandate, we observed that this role has the potency of upgrading existing health promotion efforts by (i) increased possibilities to cross sectoral borders and to connect stakeholders (boundary spanning capacity); (ii) strengthening the connection between the municipal health sector (policy), public health services (practice) and/or the local residents (public); (iii) defining favourable opportunities ('broking points') to put health on the agenda. Sharing out the role amongst more than one professional appeared to be most facilitating. The main challenges encountered were the rather indistinct definition of the new role, the complexity of the local (health) situation (e.g. the myriad of programs and policies), the absence of integrated local health data, and the need for new entrepreneurial and boundary spanning competencies.

Conclusion

Implementing a 'health broker role' may create additional opportunities to strengthen existing health promotion

efforts. Establishing a 'health broker role' analogue to a potentially more influential policy entrepreneur would require additional collaborative conceptualization and implementation efforts.

Recruiting elderly with a migration and/or low socio-economic status in the German intervention study Optimahl 60plus

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Background

OPTIMAHL 60plus is an intervention study which includes the development and evaluation of an interdisciplinary counselling aid which aims to improve the nutrition and physical activity behaviour of elderly people from 60 years onwards. The recruitment of elderly, especially those with a low socio-economic and/or migration status is known to be difficult and successful strategies are hence described.

Methods

Recruitment of elderly was facilitated through community partners, involving the target group, referrals and media involvement. Community partnerships were of special help when recruiting vulnerable groups. Particular attention to include low SES districts in Bremen (Germany) were made. Focus groups were one method employed as a door opener and to win the trust of the target group. Focus groups provide the possibility to qualitatively find out what target groups want and need in an intervention programme.

Results

Four hundred and eighty-one elderly (83 with and 398 without migration background) consented to participate. Seven community organizations with a total of 41 residences and meeting places participated. Strategies used for the recruitment and overcoming barriers will be described and discussed. One successful recruitment strategy proved to be the media: The number of participants mounted to $n=147$. The dissemination of recruited participants over the community partners and residences as well as control and intervention groups will be shown.

Conclusions

It is advisable for the recruitment and implementation of an intervention programme to involve community partners. Using this strategy alternative ways of reaching the target group as well as barriers can be identified at an early stage. This promises a higher participation of vulnerable groups and facilitates the work in the intervention phase. Through the direct involvement of vulnerable groups a contribution to the reduction of inequities in health can be made.

Overview of health data on migrants and ethnic minorities in EU countries

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Background

Migrants health status and their access to health care services are key issues on the agenda of many EU countries. The EU Commission has supported different initiatives to assess the availability of relevant data and the heterogeneity in the definition of migrant/non-national/ethnic status. The objective of the study was to make use of relevant information in order to provide an overview of relevant health data sources and to describe their main profiles.

Methods

Within the Migrant and Ethnic Health Observatory project, funded by EU Commission, two questionnaires addressed to statistical offices of the EU countries have been administered: the former aimed at obtaining a general overview of existing health datasets, the latter at collecting information about registers on health care utilization. A further source of information is the study of the London School of Economics, produced in 2007 for the EU Commission, aimed at reviewing the literature on migrant health and access to health care in Europe. Information from the above-described sources was summarized analysing the definition of immigrant/non-national/ethnic status adopted.

Results and conclusions

Information on 138 health data sources from all EU countries was collected and analysed. The data sources differed for type of source and coverage: 91 were surveys, 27 were medical registers and 19 were demographic registers. Most data sources achieved national coverage (95%). Register data are mainly hospital data, birth and death registers or disease registers. The most frequently collected migrant characteristics were citizenship (45%), country of birth (49%) and language (22%) and parents' country of birth (17%).

Previous studies reported that there are few national or European surveys to measure the health of migrants. Our study revealed that information on health data sources including immigrant/non-national/ethnic health status is now available for all EU countries. Data comparability is hampered by the heterogeneity in the definition of migrant/non-national/ethnic status. However, it seems possible to implement collaborative studies by using definitions mainly based on citizenship and country of birth, which are currently collected for the majority of health data sources in EU countries.

Lifestyle and nutrition behaviour changes at Romanian emigrants

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Background

In the last 20 years, after the change of regime in Romania in 1989, some of our citizens had chosen to go and work outside the country, in Europe and in north America. We wanted to investigate the eventual life style and nutrition knowledge changes linked with the change of residence.

Method

In order to do it, we carried out a web based cross sectional study involving two randomized samples (Romanians: $n=190$ vs. emigrants $n=190$, living outside the country for at least 3 years). Both samples had to answer to a multiple choice questionnaire with 49 items, analysed by SPSS programme.

Results

The members of the two samples have a similar level of education, age group distribution and economical status. The nutritional status seems to be linked with the present place of living ($P<0.01$), with more obese and overweighted inside the country than outside. Most of the people from the two samples declare to be somewhat preoccupied by their body weight, but have similar and inadequate knowledge about the suitable level of daily physical activity. All have close opinions regarding their state of health (mostly satisfied). Emigrants are more interested in the relation between food and health ($P<0.01$), but for this topic all the respondents answered to be at least interested at a certain level. Emigrants think they have a more healthy diet ($P<0.01$), are ready to pay more in order to have natural, ecological food ($P=0.03$) and have a low level of tolerance regarding GMF and additives, compared with the Romanians ($P=0.003$). Even if badly accepted, the role of food

additives is better known by emigrants, than by mainland dwellers (taste, colour, preservation). Emigrants are also more interested in general ecological topics ($P=0.003$), though they declare not being ready yet to pay more in order to recycle.

Conclusions

Living outside the country even for relatively short periods of time has changed some, but not all the aspects of the healthy lifestyle knowledge in a rather positive manner. Nutritional and ecological education has to be intensified in the country in order to build up the basis of healthier lifestyle choices for Romanians.

The association between health information and BMI among Iraqi migrants, settled in Sweden 2007–08

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Prevalences of cardiovascular diseases and risk factors are higher in many migrant groups compared with European native populations. Migrants may have varying levels of previous exposure to preventive health information, and may face language and cultural barriers in accessing health information. However, health information may have different effects depending on educational level. The objectives of this study are: (i) to explore the association between information on healthy diet and physical exercise and body mass index (BMI) among recently settled Iraqi migrants in Sweden, and (ii) to explore possible effect measure modification by educational level.

Postal questionnaires in Arabic were sent to all adult persons born in Iraq who registered in eight Swedish counties during December 2007 to February 2008 ($n=1300$). The outcome chosen was BMI. Multiple logistic regression analyses were performed to calculate crude and adjusted odds ratios (OR) and 95% confidence intervals (CI). Four dummy variables were constructed from the variables information on healthy diet/physical exercise and educational level to calculate possible effect measure modification by educational level.

There were significant associations between health information and BMI. OR of overweight when not having received information on healthy diet and on physical exercise was 1.6 (95% CI 1.1–2.3 and 1.0–2.3, respectively) after adjustments. Analyses of effect measure modification by education showed that the group with high educational level and having received information on healthy diet had lower risks of overweight after adjustments, compared with the other groups.

When the exposures low educational level and not having received information on physical exercise were combined, synergy effects were revealed. OR of overweight was 1.9 (95% CI 1.1–3.3), significantly higher than the sum of the effects of the exposures individually.

The findings indicate that health information may prevent overweight. They also suggest that tailored health information to migrants with low educational background should be prioritized.

Health inequality in migrant workers since 1990s in Guangzhou, China

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Background

Guangzhou is one of the cities with fastest economic development in modern China. Its migrant workers, who are

an abundant human resource, are one of the trigger factors for the fast economic growth. Furthermore, some of these migrant workers become permanent residents, some even having registered as 'Hukou' in Guangzhou, contributing to its urbanization greatly. However, its population health [valued with life expectancy (LE)] has not kept pace with economic development [valued with gross domestic product (GDP)] in last 20 years. This paper is to explore the key factors for health inequality in migrant workers in Guangzhou; to explain how unemployment would affect their health status.

Methods

Secondary analysis of official statistics was conducted to explore the following points: migrant workers' contribution to city development, the relationship between GDP and LE, explanations of this relationship, policies on social insurance and employment. All these analyses support that stigmatization of migrant workers leads to their impaired health status.

Results

There are no official restrictions for migrant workers on entry to the medical insurance system. However, there are great barriers to migrant workers being in employment. Unemployment leads to severe health problems to migrant workers.

Conclusions

Migrant workers in Guangzhou are stigmatized with regard to employment. The high level of unemployment among them not only means reduced socio-economic circumstances, but also greatly impacts on their health, both directly and indirectly; creating a vicious circle of stigma and further unemployment. The government at various levels has made great efforts to improve employment rates; but needs to be more aware of the role of stigma on migrant workers' employment status, which results both in loss of human resources and great disease burden.

Foreigners/non-nationals in Italy: a focus on mortality conditions

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Background

The increasing presence of foreigners in Italy (including immigrants, foreigners born in Italy, those living in Italy for a long or short period) has an effect on the main socio-demographic variables: in order to understand present trends an in-depth multidimensional analysis of this heterogeneous reality is conducted. For this purpose the reference official statistical source is the Survey on causes of death that collects exhaustive information on all deaths occurring in Italy, and is controlled and processed by the Italian National Statistical Institute.

Methods

Foreigners above 1 year of age who died in Italy have been subdivided into Residents (foreigners regularly living in Italy) and Non-Residents (foreigners who were 'temporarily' in Italy when death occurred, such as non-regular immigrants and tourists). In order to study risk factors, standardized death rates are constructed for residents aged 18–64 years and analysed by nationality and cause.

Results

Data on deaths of foreigners above 1 year of age (1992–2006) show an annual increase of an average 6.5% for residents and 3.1% for non-residents. Such variation is significantly higher in the case of deaths of foreigners from countries of high migration pressure, which represent the majority. Looking at standardized death rates, an increase for both genders is noticed, and an advantage for women as in the general population. Together with tumours, the major cause of death among foreigners of all nationalities, external and/or violent

causes of death are significant especially for men of high migration pressure countries, due to difficult lifestyle and work conditions.

Conclusions

Avoidable mortality has increased among foreigners, while it has decreased among the total population. Deaths of foreigners for avoidable causes represent always the majority of total deaths and among them those attributable to a lack of primary prevention amount to about 50%. Such data highlight differences in the integration level of non-nationals in Italy.

Polish 'Peer supporters' Initiative—implementation and evaluation. Lothian, Scotland March to October 2009

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Issue

EU expansion (2004) has led to over one million people from Eastern and Central Europe migrating to the UK. The greatest proportion are from Poland. Five percent of the Lothian working-age population are estimated to be Polish. Inward migration has had a significant impact on the diversity/complexity of health needs. In 2008, 5% of births in Lothian were to Polish women. Maternity service providers identified a number of issues including language and lack of family and social support. Additionally anecdote suggests migrants are beginning to adopt the prevailing culture and moving to artificial feeding. The protection, promotion and support of breastfeeding has been recognized as a national and public health priority. Targets have been set in Scotland to increase the proportion of newborn babies exclusively breastfed at 6–8 weeks. Peer support has been recommended by the WHO, NICE and Unicef UK. Patient focussed culturally competent care is a challenge everywhere. This initiative should provide transferable learning for other settings/countries as migration is a global phenomena.

Methodology

Formative evaluation will ensure learning is highlighted and reflected throughout the initiative and assess impact at 6 months. Both quantitative and qualitative methodologies will be employed.

Objective

1. Provide quality 'peer' support to ALL Polish mothers.
2. Maintain breastfeeding rates by Polish women at levels experienced in Poland.

Results

Of all Polish births in Lothian, 9% occurred in the target area (2008).

Breastfeeding rates in Scotland are amongst the lowest in Europe. Those of Polish migrants in Northwest Edinburgh, prior to the initiative, have been dropping to match the local population.

Evaluation will be complete by November 2009. If successful the initiative can be expanded through Lothian.

Lessons

Actively having to 'opt out' has increased uptake.

Involving service providers early on in implementation has ensured an appropriate accessible service.

The positive focus on positive social support/integration rather than negative problem feeding aspects has increased enthusiasm.

The initiative will over time identify learning points for other initiatives which involve migrants.

Effect of hepatitis A vaccination programs for migrant children on the incidence of hepatitis A in the Netherlands

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Background

Since 1998 Municipal Public Health Services (MPHSs) in the Netherlands carried out Hepatitis A (HAV) vaccination programs for Turkish and Moroccan children to reduce import and secondary HAV infections. The aim of this study was to assess the effects of the programs on HAV incidence.

Methods

We conducted a retrospective observational comparative study. MPHSs were questioned about HAV vaccination programs for migrant children. Notification data of HAV over the period 1995–2006 were analysed.

Results

Since 1998, 19 MPHSs (58%) organized vaccination programs for Turkish and Moroccan children. A large variation in the range of activities in HAV vaccination programs was observed. In the Netherlands, HAV incidence declined, from 6.5 per 100 000 inhabitants in 1995 to 1.3 in 2005. HAV incidence in children of Turkish and Moroccan decent declined from 70.3 per 100 000 in 2000 to 13.5 per 100 000 in 2005. Regions where MPHSs organized vaccination campaigns had the steepest decline in HAV incidence.

Conclusion

The decline in HAV incidence in the Netherlands coincided with that observed for the rest of Europe. Therefore, also other causes than the enhanced vaccination programs could have contributed to this effect. At present, low priority is placed on continuing these HAV vaccination programs, as in areas without enhanced programs the incidence also declined to very low levels. Because HAV is still endemic in Morocco and Turkey, it remains important that all travellers to these countries are vaccinated against HAV, regardless of their country of origin.

European migrants to Scotland: an audit of maternity services

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Issue/problem

Since the A8 accession, there has been an increase in the number of Central Europeans giving birth in Edinburgh and the surrounding Lothian region—almost 6% of new mothers were from A8 countries in 2008. A retrospective case note audit was conducted to assess how the care needs of this population were being met.

Description of the methods

A retrospective audit of 114/136 (84%) obstetric case records of new migrants giving birth in Lothian hospitals in 2006 was conducted. Assessment was against care standards for antenatal booking, antenatal attendance and interpretation. Obstetric outcomes were audited against the local population.

Results (effects/changes)

One hundred and fourteen case notes from a total 136 births were reviewed. 80% were primigravida and 80% of the mothers were Polish. 55% booked with antenatal services by 14 weeks and 26.5% booked after 18 weeks, mainly due to recent arrival in Scotland. A8 mothers experienced slightly more caesarean sections (27 vs. 23%) and fewer instrumental deliveries (17 vs. 19%) than Scottish women.

Interpretation was required by 41% at some time in their care. Relatively few patients accessed the NHS interpretation service ante-natally. Frequent overestimation of communication skills and lack of planning for interpretation led to poorly co-ordinated provision and re-arrangement of many appointments. Interpreters were used at 19% of births. In 15% of cases, an interpreter was not available when needed at the birth. Care was affected in some cases; for example, inability to obtain informed consent led to significant delays in receiving analgesia for a number of patients and one patient self-discharged due to her difficulties in communicating.

Lessons

Obstetric outcomes were not appreciably different for A8 migrants than the local population. Cultural factors should also be investigated to ensure that the needs of migrant women can be adequately met.

Explaining ethnic differences in late antenatal care entry by predisposing, enabling and need factors in the Netherlands

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Background

Women entering antenatal care too late cannot benefit from the opportunities of screening tests for early detection and prevention of adverse outcomes, neither can they receive timely health education. In developed countries, studies point to a late intake into antenatal care by ethnic minority groups. Studies explaining these differences are mainly carried out in the United States, where antenatal care is less accessible than in Western European countries. We examined whether ethnic differences in timely antenatal care entry could be explained making use of the Andersen model, including need, predisposing factors, and enabling factors. Regarding the predisposing factors we distinguished between variables such as age, parity and concerns regarding the pregnancy, and other health behaviours such as the tobacco and alcohol use and the use of folic acid. We hypothesized that women who are not directed towards healthy behaviour regarding pregnancy equally will not be inclined to enter antenatal care early in pregnancy.

Methods

Data on entry delay were derived from the electronic antenatal charts from 23 midwives. The study population available for this analysis consisted of 2093 women (2002–04). Information on determinants was obtained from questionnaires. Logistic regression analysis was used to assess the independent role of explanatory variables in the timing of antenatal care entry.

Results

The unadjusted model shows large ethnic differences, which were more pronounced in Moroccans, followed by the Dutch Antillean and the Surinamese-Creole. Surinamese-Hindustani did not differ from the Dutch reference group.

The ethnic differences decreased after adjustment for all variables simultaneously especially in Turkish and Capeverdean women, where the differences with Dutch women no longer were significant. Especially the behavioural factors were strongly associated with late entry.

Conclusions

In the discussion we will (a.o.) elaborate on the question whether we can conclude that women who are not directed towards healthy behaviour regarding pregnancy equally are not be inclined to enter antenatal care early in pregnancy.

Women go for health in MiMi

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The current state of research in the field of migration and health care in Germany reveals that migrants are generally insufficiently informed about the health system of their country of residence. They make less use of the services and support offered by statutory services and by government than the native population. In addition, migrants generally appear not to pursue a preventive approach to health preservation, a concept, which is even widely unfamiliar to/in some migrant communities.

'MiMi—With Migrants for Migrants', a project adopted in 10 German federal states (e.g. Bavaria, Hesse, Lower Saxony, North Rhine-Westphalia, Schleswig-Holstein) provides an alternative and central key to these issues by engaging transcultural health mediators,

Women from different countries of origin have been playing a fundamental role in this project.

In 2007, 75 intercultural health mediators from 25 different countries were trained in Schleswig-Holstein, 81% of which are women. Within a year health mediators organized 175 informative events (health campaigns) in their native languages to inform their compatriots about the organizational structure of the German health system as well as about prevention and health promotion measures, such as diets and exercise, medical prevention and early diagnosis of diseases, paediatric and psychological health care. These health campaigns took place at various sites (religious institutions, welfare organizations and migrant services and associations, language schools and counselling centres)—settings preferentially frequented by migrants. More than 2500 migrants from 64 different countries participated in these events. Again, 80% of the participants were female.

In many cultures women in their function as mothers hold the role of a caretaker within the family and are cross-culturally more susceptible for (responsive to) health issues. They traditionally advocate and engage more than men in issues of prevention and healthy life styles.

New European migrants and the NHS: a health staff training DVD

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Background

In response to increasing concern about the experiences of the NHS of A8 migrants, the Scottish Government funded a patient stories DVD. The DVD is intended for use as a training aid for NHS staff. The aim of the training that accompanies the film is to provoke the to think about practice and steps to improve cultural competence. A Polish film maker won the contract to produce the DVD.

Outcome and the produced DVD

Many of the issues discussed in this DVD are common to the local Scottish population as well as to all migrants. But there are several unusual features of the new A8 migrants.

1. the very rapid influx of people to Scotland;

2. they are nearly all in the 18–35-year-old age group, and
3. they have ready access to healthcare in and advice from Poland.

Some of the scenarios have specific clinical learning objectives, while all teach something about appropriate and fair treatment and good communication. The accompanying training manual is available at <http://www.healthscotland.com/uploads/documents/9220-DVD%20European%20Manual%20Feb%2009%20First%20Edition%20for%20web.doc>.

Conclusions

The clips from the DVD and dialogue illustrate how patients may be using two systems; problems caused by language differences; a lack of understanding of the expert role and high level of training of GPs and other NHS staff; and the perceived slow access to GP and other services afforded to patients in this country. Producing the DVD using a Polish gave the project strenght and resulted in a widely applicable training resource for NHS staff.

The impact of recent Central and Eastern European migration on the Scottish health service: a study of newspaper coverage 2004–08

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Background

We examine newspaper coverage about the impact of recent Central and Eastern European immigration on the Scottish health service. It follows rising public concern after 'record' and 'unexpected' levels of migration followed the EU enlargements of 2004 and 2007.

Methods

The reporting of six Scottish newspapers was examined over 2004–08 to track underlying themes running within reports. The framework of Social Representations Theory (SRT)—used elsewhere to examine how infectious disease threats are portrayed in the press—was used to analyse how migration's impact was conceptualized within newspapers and explained to society.

Results

The overall pattern identified by this study is of representations of threat being closely followed by those of reassurances. The portrayal is influenced by pronouncements of politicians, often around elections as well as news stories and coverage of events involving migrants. The portrayal of migrants posing a threat to the health service has increased in frequency over the past 4 years, particularly maternity and accident and emergency services under pressure and European staff having inadequate qualifications. Subsequently, reassurance themes emerged to allay societies' fears of such threats. Most reassurance has focused on the fact that migrant workers provide needed skills in Scotland. There has also been a focus on the need for Scotland's public services to provide training and support for staff and patients. However, no reassurance emerged to counter the unfounded threat that migrants harbour infectious diseases.

Conclusions

SRT suggests that migration will be portrayed first as a threat and then reformulated through a series of reassurance discourses. This proves to be the case in the Scottish press. It is worth noting that the most important reassurances—skills shortages and inclusive services—are portrayed as specific to Scotland, rather than the rest of the UK where labour market conditions and public service ethos differ.

How do migrants of Russian and Turkish origin in Germany seek for health related information? Are there any differences compared with natives?

Ulla Walter

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Background

Having sufficient information about health issues is a precondition for effective preventive behaviour. There is only few data about the way migrants get this specific information and about their needs regarding health information. Comparing the behaviour of migrants and non-migrants might give us essential suggestions how to improve the access of migrants to the health system in Germany. The study was funded by the Federal Ministry of Education and Research.

Methods

Representative samples of 300 Russian (Ru) and 299 Turkish (Tu) speaking migrants as well as 271 Germans (G) living in Hanover, Germany, were queried by native speaking interviewers. The participants were asked about their usual sources of information in case of health problems and which source they would prefer.

Results

In all groups physicians emerged as the main source of information (Ru 72%, Tu 81%, G 87%). Nevertheless, stratified by sex, significant differences crystallized out in the degree of contacting a physician in case of medical problems. Most of the Germans (63%) use internet for getting health related information. This is contrary to a minority of the migrants (Ru 30%, Tu 31%). Subject to acculturation and education, migrants show differences in the degree of using internet. Referring to the preferred ways of getting information, all groups chose physicians, followed by internet (G), newspapers (Ru) and pharmacies (Tu). Overall, migrants of Russian origin expressed fewest interest in getting information regarding health issues.

Conclusions

Migrants and non-migrants show a lot of differences in seeking health related information as well as in preferred sources of information. For migrants of Turkish origin physicians seem to be the most important link to the health system. As the

migrants of Russian origin are least interested in information about health of their own accord, the health experts have to pay extra attention on them.

Multicultural approach to improve access to health services for economically and socially deprived communities focused on Roma

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With growing concerns about racial and ethnic disparities in health, there is a need to focused on multicultural health services provision facilitated through health mediators and health care providers. Situation of marginalized groups has multiple and interrelated caused which reinforce each other. The improvement of their situation calls for sector-wide policies as well as for specific interventions. Culture, as an important part of social community characteristics, we can include into socio-economic determinants of health. Socio-economic determinants of health are major determinants of health and association between worse socio-economic conditions and health is well known and proved. Socio-economic status has been considered the most influential single contributor to premature mortality and morbidity by many public health researchers. We can promote Roma health and health of other socially deprived communities taking into account multicultural approach and consecutively improve their access to health care.

Their access to health care is complicated due to geographical isolation, culture barriers, and language barriers. Multicultural approach is a big challenge for public health professionals and health care providers within the process of community empowerment. Project funded by Ministry of Health in Slovak Republic is focused on effectiveness of health mediators in Slovakia. Our target groups are Roma people, general practitioners and health mediators. Health needs assessment is a systematic approach to ensuring that the health service uses its resources to improve the health of the population in the most efficient way. Taking into account combination of epidemiological, qualitative and quantitative methods as the best way how to describe health problems of the community, to identify health inequalities and access to services there is an intention to present experiences from the field and preliminary results.

Friday 27 November, 13:00–14:30

Poster Session 7: Mental health and chronic diseases

Human rights of persons with mental disorders of the Republic of Korea

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In spite of its high achievement in the economic development, the condition of persons with mental disorders of the republic of Korea (hereafter South Korea) has been showed disappointed features. The average length of stay of inpatients in mental health facilities was 662 days and the rate of involuntary admission was 90.3% in 2007. From November 2001 to June 2006, about 400 petitions (about 1.126 matters) were filed to the National Human Rights Commission off the Republic of Korea (NHRCK). Among them, there were human rights violations from mental health facilities. They were about (i) unfair detention in admission and discharge procedures, (ii) undue

restriction on basic rights and cruel treatment during medical treatment proceedings, (iii) insufficient support to treatment and education for people with mental disabilities who can return and be integrated in the community.

The poor condition of human rights of persons with mental disorders in South Korea has reflected historical and political context including condensed growth during 1960–70 and 'economy is first ideology'. South Korea does have, however, a very dynamic society. Few places in the world can match the speed and depth of the country's political and social changes in recent decades. South Korea's social and political achievements are no less remarkable than its spectacular economic growth. Therefore, its previous policy context can provide only limited information to the interpretation of its present policies and the estimation of future policies. The impact of the recently rapid increase in civic groups on health policies should be monitored with interest.

The filial piety and mental health of the elderly in modern China

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Background

China entered the aging society in 1999 with a large population size of over 65 years of age. To meet the spiritual needs of the elderly has a significant impact on not only the physical health of the elderly themselves, but also social harmony and stability. However, in China, the mental health of the elderly is neglected from institutional level and the family in its economic development. It is well known that filial piety (xiao) connotes family ethics. This article is to reveal the degree that filial piety subserves the mental health of the elderly in modern China, and to explore how to develop it.

Methods

Statistical analysis of Secondary data of 2000 Sampling Survey of the Aged Population in Urban/Rural China was conducted to explore the degree of impact of filial piety to the mental health of seniors in China.

Results

Filial piety is useful to keep and better the mental health of seniors. However, filial piety, facing challenge greatly in modern economic development, fails to function fully to meet seniors' mental health demands.

Conclusions

The spiritual needs of the elderly in China are neglected both practically and academically, hence, their mental health is highly bounded with filial piety. However, some of the elderly in China are suffering the poor fealty of the younger generation, which does great harm to the mental health of the elderly, appealing for urgent action institutionally. Moreover, the filial piety is retreated to family in the economic development, resulting in fragment of its function as a whole to the society and contributing to the vulnerability of filial piety to coordinate the family relations and social relations at large, which asks for social convention.

Healing of a vulnerable self: the return-to-work process among women suffering from common mental disorders

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Background

Common mental disorders (CMD) like stress and depression are frequent in Denmark and are associated with sickness absence and disability pensioning. However, few studies examined the return-to-work (RTW) process in employees with CMD. The aim of this qualitative study was to explore the RTW process as it is experienced by women suffering from CMD.

Methods

We conducted 16 semi-structured interviews with women who were or had been receiving sickness benefit due to self-reported CMD. Interviewees were recruited from a follow-up questionnaire investigation among employees receiving sickness benefit in Copenhagen. The questionnaires were used to purposefully select interviewees. A constructivist version of grounded theory was employed for data analysis.

Results

While the sickness absence experience constituted a threat for positive self-images and self-esteem it also had potential as a personal growth experience. The core of the experience

was not work-resumption but rather healing in terms of being able to live an unrestricted life and to maintain or reconstruct a positive self-image. Thus, healing was more than attenuation in symptoms and increased work-functioning. On a more fundamental level it was a healing process of a vulnerable self. This process consisted of actions, interactions and emotional responses and was conditioned by acceptance and acknowledgement by others and receiving supportive health-care and professional treatment. Also, the duration and severity of symptoms influenced the healing process.

Conclusion

This study contributes to the understanding of how women with CMD construct meaning of sickness absence and how this influences the RTW process.

Work-related fatigue: the specific case of highly educated women in the Netherlands

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Background

Women seem more at risk of work-related fatigue than men but little is known about education level and age. A representative study is conducted to identify Dutch employees with a high prevalence of work-related fatigue and factors explaining work-related fatigue.

Methods

In 2005 and 2006, a representative random sample of 80 000 employees filled in The Netherlands Working Conditions Survey (NWCS). First, the prevalence of work-related fatigue (Need For Recovery, NFR) was calculated for men and women at different education levels and ages. Highly educated women, in particular >50 years, reported the highest prevalence. We used logistic regression to examine the impact of age, education, marital status, having children, health, and working conditions on high NFR. We compared (i) highly educated women with highly educated men; (ii) highly educated women with lower educated women, and; (iii) highly educated women aged 50–64 years with younger women.

Results

Gender differences among highly educated employees [odds ratio (OR) 1.37; confidence interval (CI) 1.27–1.47] are not explained by our model (adjusted OR 1.32; CI 1.19–1.48). Working conditions such as lower autonomy and workplace violence explained highly educated women's work-related fatigue, but working fewer hours than men counterbalanced this. Compared with lower educated women, highly educated women's work-related fatigue is largely explained by time pressure (crude OR 1.44; CI 1.35–1.53 vs. adjusted OR 1.21; CI 1.03–1.25). Compared with younger women, older highly educated women's fatigue is explained by lower health ratings, more adverse working conditions, and working as a teacher (crude OR from 1.32; CI 1.16–1.49, adjusted for all factors OR 0.94; CI 0.76–1.16).

Conclusion

Highly educated women, in particular >50 years, report the highest prevalence of work-related fatigue. More adverse working conditions explain highly educated women's work-related fatigue while working fewer hours protects them. Our findings are disturbing in the view of women's increasing education level and labour market participation.

Burnout and the role of work-home and home-work interference among physicians in Serbia

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Background

Burnout is prominent among physicians in the Western countries, but not much research has been done on the topic in Eastern European countries. In order to bridge this gap, the study was conducted in Serbia that assessed the prevalence of burnout, as well as the mediating role of work-home (WHI) and home-work (HWI) interference on burnout subcomponents (emotional exhaustion, depersonalization and personal accomplishment). Particular attention was paid to gender, since physicians in primary care in Serbia have greater female than male physicians' representation.

Methods

Cross-sectional data using Maslach Burnout Inventory and other validated questionnaires were collected in July and August 2008. The sample consisted of 373 physicians (315 females, 58 males) working in 12 primary health care centres in Serbia. Chi square tests and linear hierarchical regression were used to analyse the data.

Results

The results of our analyses indicated that many physicians felt exhausted. At the same time, they felt they were doing their job very well and were not distancing themselves from the patients. No gender differences were detected on the overall level of burnout and WHI/HWI. For males, WHI mediated the relationship between work characteristics and exhaustion levels. For females, WHI mediated the relationship between work characteristics and both exhaustion and depersonalization. For both males and females HWI mediated the relationship between work characteristics and all three burnout outcomes. For females, the role of WHI/HWI was stronger. All relationships reported were significant on an alpha level of 0.05.

Conclusions

High prevalence of emotional exhaustion implies the need for lowering job demands and patient numbers per physician in Serbian primary care settings. The role that WHI/HWI play and the factors that determine burnout vary between the genders and call for gender sensitive occupational health and safety guidelines. Important role of WHI/HWI calls for additional attention with regards to work and home balance when developing public health policy guidelines.

'Ambiguity overload': stress and recovery among young highly educated working women in Sweden

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The substantial increase in long-term sick leave and stress-related disorders among young highly educated women in Sweden is alarming. Knowledge of stress and recovery among the growing number of young women with high education is limited, particularly among women entering traditionally male dominated work environments, but also in view of increased societal individualization and a de-standardized and prolonged transition to adulthood. The aim of this study was to gain a deeper understanding of stress and recovery among young highly educated women. Using grounded theory, open interviews were conducted with 20 informants (23–29 years) working as physicians, lawyers, engineers, economists and architects. A conceptual model was grounded in the data, describing how the very combination of extensively ambitious individuals and a context overflowing with possibilities and demands ended up in ambiguity overload. This core category comprised the informant's experience of the constant presence

of existential ambiguity, everyday ambiguity and an ambiguity in estimating good enough. If this overload was not handled by individual or contextual boundary setting the informants got stuck in a loop of stress and malfunctioning coping behaviour which in turn often ended up in insufficient recovery. Hence, highly educated women face complex living conditions which might endanger their possibility of maintaining health and work ability. This is partly due to boundary-less work and performance focused surroundings but also to being women in male dominated work environments. Employers should identify and eliminate structures and attitudes increasing stressors for women, but also facilitate and support boundary setting at work.

Health resources for wellbeing of overworked self-employed in Austria

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There have been conducted many studies about preferred working hours of employees but there is little knowledge about working hours of self-employed people. As research has shown self-employed are the group with the longest working hours. As in many cases they are forced to work very long hours in a perspective of public health and referring to the model of salutogenese an important question to answer would be:

'What are the health resources supporting people to stay healthy and to keep a high level of well being despite of the stress of very long working hours?'

To answer this research question a qualitative interview study with self-employed has been conducted in Austria. Thirty-five self-employed working regularly more than 48 h per week have been interviewed. The interviewed have been between 22 and 58 years old and had different levels of education. Their monthly income varied between 700 and 5000€. The self-reported well-being of the interviewed self-employed was differing between very poor to excellent. The in depth interviews have been analysed using qualitative text-analysis, supported by ATLAS-ti as tool of analysis.

As a result of this explorative interview-study three major influencing factors on well-being despite very long working hours have been found.

1. The extend of time autonomy.
2. The extend of recognition for the work done.
3. The feeling of being paid a fair and adequate fee for the work done.

The higher the extend of these three influencing factors the higher the well-being of the self-employed is.

These results can be interpreted referring to Siegrists model of Effort-Reward Imbalance as longing for recognition and fair payment can both be interpreted as longing for reward. Overworked who do not get enough reward for their work and who do not have a certain extend of time autonomy do feel badly whereas self-employed experiencing a good balance of effort (long working hours) and reward are healthier and do report a high level of well-being. According to these results, in order to enhance the well-being of overworked people public health policies should be adopted to assure sufficient recognition, fair payment and flexible working hours especially for people with very long working hours.

The psychosocial work environment and common mental disorder in England

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Background

Over recent decades there has been a shift in occupational health from physical hazards to the impact of the psychosocial

work environment. Given the changing nature of work it is essential to understand how the psychosocial work environment may contribute to mental ill health.

Methods

We conducted a probability sample survey of 7400 adults, representative of the English general population. Common mental disorders (CMD), such as anxiety and depression, were assessed using ICD-10 diagnostic criteria. The computer assisted interview collected data on individual circumstances, including working environment, using questions from Siegrist's Effort-Reward Imbalance model and Karasek's Job Control Questionnaire. Using logistic regression models conducted in STATA, we examined the relative contribution of individual adverse psychosocial job characteristics in predicting CMD.

Results

Preliminary analyses show that after controlling for individual and workplace characteristics, high job demands (e.g. 'job is more and more demanding', adjusted odds 2.11), decision latitude (e.g. 'low choice in how to go about work', 1.62), esteem and prestige (e.g. 'low respect and prestige from colleagues', 2.85), job prospects and security (e.g. 'poor job security', 1.91) and social support (e.g. 'line manager not willing to listen', 2.32) were all predictors of CMD.

Conclusions

Apart from respect from clients, all the items measuring psychosocial characteristics predicted CMD. In particular, having poor social support from colleagues and line managers emerged as key. The strength of this association suggests that encouraging a working environment conducive to employee peers being supportive of each other is a key area for policy. Training in communication skills may assist with this. While having choice in what one does at work is associated with CMD, it appears that choice in how that work is done may be even more important. This should inform staff management techniques in the work place.

Recurrence of sickness absence due to common mental disorders in the Netherlands

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Background

Common mental disorders (CMDs) are an important cause of work disability. Although CMDs are known to have high recurrence rates, little is known about the recurrence of sickness absence due to CMDs. This study examines the recurrence risk of sickness absence due to CMDs.

Methods

A dynamic cohort consisting of 137 172 employees (62% men, 38% women) from the Dutch Post (70%) and Telecommunication companies (30%), was studied over a 7-year period. The incidence density (ID) and recurrence density (RD) of sickness absence due to CMDs was calculated per 1000 person-years. Recurrence was defined as the start of a at least one new episode of sickness absence due to CMDs after complete return to work for at least 28 days.

Results

Of the 9904 employees with a first absence due to CMDs 1.925 (19%) had a recurrence. The RD of sickness absence due to CMDs was 84.5 employees per 1000 person-years [95% confidence intervals (CI) 80.7–88.3], the ID of sickness absence due to CMDs in the total population was 27.7 employees per 1000 person-years (95% CI 27.1–28.2). The median time-to-onset of recurrence in those with a recurrence varied between 8 and 11 months (95% CI 6–14 months), depending on the

initial diagnosis. Distress symptoms had a lower recurrence of sickness absence due to CMDs than the other mental disorders. Depressive symptoms were the most frequently diagnosed recurrent disorder. Employees younger than 55 years of age had a higher RD of sickness absence due to CMDs than older employees. The ID of sickness absence due to CMDs was higher in women than in men, but the RD was similar.

Conclusions

Employees with a previous episode of sickness absence due to CMDs are at increased risk of recurrent sickness absence due to CMDs. Extra relapse prevention consultations 3 to 6 months after return to work are recommended.

The influence of the depression on work and social role impairment

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Background

In the last decades, the interest for measuring the effects of mental disorders on complex roles a person has to play in daily life became higher.

Methods

Face to face household interview conducted from 2005 to 2006, using Composite International Diagnostic Interview (CIDI), resulting in 2357 respondents. For the Major Depressive Episode (MDE) the role impairment was measured by Sheehan Disability Score; 12 months severity was assessed with the Quick Inventory of Depression Symptomatology Self Reported (QIDSR) and World Health Organization-Disability Assessment Schedule (WHO DAS).

Results

The Sheehan Disability Scale (SDS) assessed the extent to which depression interfered with functioning in work, household, relationship and social role in the worst month of the past year. Number of days totally unable to work/carry on usual activities because of depression in the 365 days, expressed as mean was 18 days for all 45 respondents with MDE but varied with clinical severity from 11.7 days for 'mild' form till 30.8 days for 'severe' one. Reported severe or very severe impairment in at least one SDS role domain 21–25% for 'mild', 'moderate' or 'severe' categories of the clinical severity but 80.5% for 'very severe' category. Among those with MDE, the percentage of those with severe score (Sheehan score ≥ 7) was 50.7% for the global functioning, 39.5% for the domain of close relationships, 35.2% for the functioning in household, 41.6% for work functioning, 35.6% for social functioning. Interference of the depression with functioning in work in the worst month of the past year was scored as mild (score 2.7) in the group 18–34 but moderate (score 6) for all the other age groups. Interference with the social functioning was 'mild' for the age group 18–34 (score 2.7), severe (score 6.6) for the group 35–49 and 'moderate' for the other age groups.

Conclusion

Major Depression Episode is a seriously impairment condition. Nearly all respondents with 12 month Major Depression Episode reported at least some role impairment associated with their depression in at least one of the four Sheehan Disability Scale role domains. The severe consequences of the depression on functioning in labour and social areas call attention to the need for early diagnostic, proper treatment.

The relation between anxiety and health behaviour among Lithuanian population

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Background

Anxiety and psychological wellbeing have an effect on the lifestyle and diet. More anxious groups may be particularly vulnerable to the adverse health effects associated with health behaviour. The aim was to evaluate the possible relation among lifestyle factors and anxiety symptoms in Lithuanian adult population.

Methods

Survey was carried out within CINDI programme in five rural regions of Lithuania in random sample of population aged 25–64 years in 2007. A questionnaire survey on lifestyle characteristics and eating habits were conducted in 1739 participants. Anxiety levels were assessed through Spilberger State-Trait Anxiety Inventory. Distribution of total scores of men and women were divided into terciles and groups with low, medium and high level of anxiety were formed. The relationship between lifestyle and anxiety was assessed by logistic regression analysis after controlling for age, education and family status.

Results

More anxious compared with less anxious, respondents assessed their own health worse, were more worried about their health. Men in highest anxiety group were more than twice as likely to have higher blood glucose level [odds ratio (OR) 2.5; 95% confidence interval (CI) 1.07–5.89] and women in highest anxiety group had almost twice as likely to have higher cholesterol level (OR 1.7; 95% CI 1.06–2.83) than those in the lowest anxiety group. The level of anxiety was associated with a remarkable loss of appetite compared with the lowest anxiety group (OR 4.4; 95% CI 2.64–7.30 in men and OR 3.1; 95% CI 2.07–4.72 in women). Some nutrition habits were associated with anxiety in men and women. Higher anxiety level has been associated with higher alcohol consumption on an occasion in men and women, daily smoking status and sedentary work (more than 5 hours per workday) in women if compared with low anxiety level.

Conclusion

The level of anxiety was related with health behaviour. These findings should be taken into account when designing and evaluating interventions for general population.

The association of various psychosocial factors with physical symptoms, reported at health examinations in primary care

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Background

Psychological distress is often expressed in the form of somatic symptoms and patients experiencing it often seek medical help for somatized symptoms. In primary care, however, great emphasis is placed on biological aspects whereas psychological and social aspects of the patient's complaints are often neglected. These facts in turn can lead to an increased health care utilization. We wanted to determine indicators for psycho-social factors and investigate the associations between them and physical complaints.

Methods

Participants were 312 men and 374 women aged 19–60 years at health examinations in different Austrian regions. The relationship of psycho-social factors on cardiac complaints,

dyspnoea, gastric complaints, headache, joint or muscle pain, dry skin, hearing impairment, tinnitus, decrease of strength and endurance, and insomnia was analysed using logistic regression analyses and multiple linear regression models.

Results

People with psychosocial strain exhibited a higher probability of reporting at least one physical symptom. Age and sex adjusted odds ratio (95% confidence interval) for work pressure was 2.02 (1.42–2.88), for social work-side strain 3.26 (1.64–6.47), for sexual dissatisfaction 2.58 (1.36–4.90) and for discomfort in family/partnership 2.73 (1.27–5.87). The psycho-social parameter, that was related most strongly with physical symptoms was discomfort in family/partnership, followed by sexual dissatisfaction, social work-site strain and work pressure with means of 1.62, 1.08, 0.95 and 0.44 symptoms (linear regression model, adjusted for age and sex, $P < 0.001$ for each parameter). The association between discomfort in family/partnership and social work-site strain with physical symptoms were stronger among men, compared with women, however, among women, sexual dissatisfaction and work pressure were more related with physical symptoms, than compared with men.

Conclusions

The report of physical symptoms is often associated with psychosocial factors. Structures and procedures, integrated in primary care are required for the identification and treatment of somatizing patients.

Person-related work and incident use of antidepressants

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Background

Increasing numbers of workers do person-related work—that is they provide services to other persons (e.g. customers, clients, students or patients). Certain types of person-related work have been associated with increased hospitalization for depression. We aimed to replicate this finding, applying a different measure for depression; namely incident use of antidepressants. Furthermore, we examined if the association was mediated by exposure to emotional demands, demands for hiding emotions, threats and/or violence.

Methods

We linked The Danish Work Environment Cohort Study (DWECS) (year 2000) with the Register of Medicinal Products Statistics, obtaining information about all antidepressants purchased at Danish pharmacies. We included 5087 employees, after excluding respondents purchasing antidepressants within 12 months before follow-up. DWECS was representative of Danish employees, with a response-rate of 75%. Follow-up was 5 years. Respondents were categorized as doing person-related work (health work, educational work, social work or customer service) or non-person-related work, by combining job group and reported client-contact. We conducted logistic regressions, adjusting for gender, age, cohabitation and socio-economic position. Mediation was assessed by attenuation of risks, when adjusting for potential mediators.

Results

Using non-person-related work as reference, odds of incident use of antidepressants were increased by 60% for health workers ($P = 0.01$), and 40% for educational workers ($P = 0.09$). No increase was seen for social workers or customer-service workers. Effects were mediated by emotional demands. We found no independent mediating effect of demands for hiding emotions, threats or violence.

Conclusion

We found increased use of antidepressants for respondents doing certain types of person-related work, substantiating an association between these types of work and depression.

Results could be biased by treatment-seeking behaviours. However, considering the mediating effect of emotional demands, bias is unlikely to fully explain results. Results showed high incidences of depression in health- and educational workers, as 9–12% of these started using antidepressants, indicating substantial potential for prevention.

Anxiety in recent vs. established rheumatoid arthritis patients

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Background

Anxiety is frequently experienced in rheumatoid arthritis (RA) patients. The aim of this study was to compare recently diagnosed RA and established patients regarding anxiety to explore associations of anxiety with disease-related variables and personal resources.

Methods

Data were collected at outpatient rheumatology clinics in eastern Slovakia. The sample consisted of 55 recent patients (RA <4 years; age 55 ± 12; 84% women) and 92 established patients (RA 14 years or more; age 59 ± 11; 64% women). Patients underwent a routine examination (RAI), laboratory tests (ESR) and completed questionnaires regarding pain (NHP), functional status (HAQ), self-esteem (RSE), mastery (PMS), anxiety (HADS) and additional data were obtained from the medical files (bio-therapy). The recent and established groups were compared using independent *t*-tests. Hierarchical linear regression models were built to explore the multivariate associations of anxiety within the two groups.

Results

No significant differences were found regarding levels of anxiety when comparing the two groups. Hierarchical regression models revealed that within the established group anxiety was associated with the presence of biological treatment ($\beta = 0.23$; $P < 0.05$), ESR ($\beta = 0.20$; $P < 0.05$), functional status ($\beta = -0.25$; $P < 0.05$), pain ($\beta = -0.25$; $P < 0.05$) and mastery ($\beta = -0.44$; $P < 0.001$), explaining 34% of the variance. In the recent group, only mastery ($\beta = -0.32$; $P < 0.05$) and self-esteem ($\beta = 0.37$; $P < 0.01$) were significantly associated with anxiety, explained 44% of the total variance.

Conclusions

This study found no differences in anxiety when the recent and established RA patients were compared. It did find strong associations with personal resources in the recent group, however, while in the established group disease-related variables (ESR, pain, functional status, biological therapy) were significantly associated with anxiety.

Health disparities in patients with rheumatoid arthritis: the role of socio-economic status, functional disability and self-esteem

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Background

Patients with a chronic disease with lower socio-economic status (SES) are reported to have more severe disease, more

comorbidity, and higher mortality. The aim of this study was to examine whether the socio-economic gradient is present also in physical functioning of patients with rheumatoid arthritis (RA), and if so, to what extent can this association be alleviated by the level of patient's self-esteem.

Method

The sample consisted of 160 patients with recently diagnosed RA (84.4% women; mean age 48.7 ± 12.0 years; mean disease duration 22.2 ± 15.9 months). The data were collected within the framework of a multicentre, multi-disciplinary, longitudinal project—the European Research on Incapacitating Diseases and Social Support (EURIDISS). Functional disability (GARS) was the dependent variable; SES and self-esteem (RSE) were the independent variables. Logistic regression controlled for age, gender and disease activity (ESR, CRP) was used to analyse data.

Results

Patients with the lowest level of education as well as those with the middle education were more likely to experience more activity restriction compared with those with the highest level of education [odds ratio (OR) 4.60, 95% confidence interval (CI) 1.17–18.16, $P < 0.05$; OR 3.39, 95% CI 1.08–10.76, $P < 0.05$; respectively]. When controlling for patient's self-esteem the significant adverse impact of SES on physical functioning disappeared (OR 4.25, 95% CI 0.92–19.73, n.s.; 2.94, 95% CI 0.85–10.17, n.s.).

Conclusion

SES has been found to be a factor influencing significantly the subjective perception of activity restriction among patients with RA even after controlling for the effect of relevant clinical variables. Efforts should be undertaken in health care to alleviate the health disadvantages of RA patients in lower socio-economic groups. Treatment interventions focused on increasing the self-esteem may help in reducing the negative impact of SES on health outcomes in patients with a chronic disease.

Quality of Life and the Terminal Kidney Insufficiency in Haemodialysis Program

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Background

The investigation supports the existence of a strong correlation between social assistance and life quality suggesting the same has mediatory effects in health protection and develops a protective role throughout the whole vital cycle. Studies have testified the existence of direct positive effects between social assistance and health, such as is the case of population with chronic diseases where quantity (availability) and quality (satisfaction) of the acknowledged social assistance were associated a wider adherence to treatment and better life quality.

Method

Transversal studies, undertaken in a sample of 98 Terminal kidney insufficiency in a haemodialysis programme, ages from 25 to 78 ($X = 59$) with the purpose of evaluating the effects of family assistance in life quality. Steps: Clinical inquiry; Inquiry of life quality in kidney disease (KDQOL—SF).

Results

It was confirmed that family support influences the cognitive function ($Z = -4.115$, $P = 0.000$), the social support perceived ($Z = -5.264$, $P = 0.000$) general health ($Z = -2.225$, $P = 0.026$), social function ($Z = -4.199$, $P = 0.000$) emotional well-being ($Z = -2.594$, $P = 0.009$) social interaction quality ($Z = -1.978$, $P = 0.047$) the performance of physical role ($Z = -2.011$, $P = 0.044$) physical function ($Z = -3.763$, $P = 0.000$) pain

perception ($Z = -4.593$, $P = 0.000$) the symptoms/problems ($Z = -3.629$, $P = 0.000$) and sleep ($Z = -3.130$, $P = 0.001$).

Conclusions

The observance of a significant relation between family support, better health and better life quality justify an investment in the family system of people suffering from terminal kidney insufficiency, including the family in educational health planning actions created for them.

Glomerular function predicts quality of life in patients after kidney transplantation

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Background

Studies on the quality of life (QoL) of patients after kidney transplantation (KT) are usually not focused on a longitudinal analysis of its predictors. Only a few studies have explored the relationship between QoL and the graft function. The aim of this study was to analyse the relationship between graft function and QoL.

Methods

Forty-two patients (mean age 51 years, men 64%) were examined in the third month after KT (T1) and the twelfth month after KT (T2). Socio-demographic data and data on glomerular function (Cockcroft-Gault) were collected. Patients completed the SF-36 questionnaire measuring QoL. Linear regression was used to identify predictors of QoL at T2. Age, gender, change in glomerular function between T2 and T1 and QoL at T1 were set as independent variables.

Results

QoL and glomerular function improved slightly over time. A regression model consisting of age [$\beta = -0.26$, 95% confidence interval (CI) -1.087 to -0.035 , $P < 0.05$], change in glomerular function between T2 and T1 ($\beta = 0.31$, 95% CI 9.267 – 63.643 , $P < 0.01$) and QoL at T1 ($\beta = 0.5$, 95% CI 0.247 – 0.68 , $P < 0.001$) explained 55% of the variance in QoL at T2.

Conclusions

Although QoL after transplantation is not associated with absolute levels of glomerular function, there is a significant association with the change in glomerular function over time. Improvement in the function of the transplanted kidney is connected with improvement in QoL. This is important to consider when managing a patient, because either a positive or a negative change in glomerular function may have consequences for the patient's quality of life and well-being.

Evaluation of a rehabilitation project for subjects on long-term sick leave

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Issue/problem

The aim of the project is to decrease the short and long-term sick leave in the Vastra Gotaland Region, in the southwest part of Sweden.

Material and method

This pilot project included patients with a long-term sick leave exceeding 90 days at the central laundry in the city of Alingsås (total work force 300 subjects; long-term sick leave 11%). The Company Health Service Health & Working Life (H & A) used a team approach including separate investigations and evaluations by a nurse, physician, physiotherapist and a psychologist. The final evaluation was presented first to the patient and then to the patient and to the employer in a joint meeting. The project was evaluated by an independent examiner. Two evaluation questionnaires (patient; employer) were used. The patient questionnaire had seven questions related to information, treatment and presentation of the results. The employer questionnaire had eight questions related to the evaluation, recommendations and to the contacts with H & A. All questions had six response alternatives, graded from 1 (lowest) to 6 (highest).

Results

The results of the patient questionnaire were very positive. The mean point of each of the seven questions varied between 5.8 and 6.0. The result of the employer questionnaire was also very rewarding. The mean point of the eight questions varied between 4.8 and 6.0.

Discussion and conclusions

The team approach used by H & A apparently gave a very positive response from patients as well as employers in this pilot project. Next, the programme will be tried on a larger group of subjects on long-term sick leave in the Vastra Gotaland Region, also including long-term measures such as the percentage of subjects on long-term sick leave that return to the same or to other works, and the length of the sick leave period.

Improving patients' medication adherence in chronic diseases

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Background

Adherence to long-term therapy is defined as the extent to which a patients' behaviour corresponds with agreed recommendations from a health care provider. According to World Health Organization adherence among patients suffering chronic diseases in developed country averages only 50%.

The objective of this study was to investigate the reasons of patient's non-adherence to prescribed therapy in order to identify the ways in which adherence could best be improved by pharmacists.

Methods

Patients with diagnosed chronic diseases filled self-reported questionnaire with questions containing information about the reasons for not taking their medication as prescribed, whether pharmacists checked patients' adherence to their therapies, and how often they did it.

This study has involved 171 community pharmacies in the city of Zagreb.

Results

Results from 180 self-reported questionnaires show response rate 33%. There were 16 offered reasons for patients' non-adherence. The most frequently reported reasons were the following: forgetfulness (53%), 'ran out of pills' (40%), away from home (36%), problems with taking pills at specified times (with meals, on empty stomach, etc.) (34%), problems with taking more than one medicine at the same time (31%). More than half of the patients (59%) stated that pharmacists always checked whether patients' took their medicines for the first time. 64% of patients thought that pharmacists do not check how often they miss their doses.

Conclusions

By tailoring individual patient medication plan, giving more advice on how to deal with complex drug regimen, checking how often patient miss their doses and asking patient to repeat aloud how they should take their medication, pharmacist can increase patient adherence to long-term therapy and in the end therapy effectiveness, patient safety, quality of patient life and rationalize drug expenditure.

Disability and its associated factors in Indonesia

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Background

As a country with limited health budget, Government of Indonesia needs to allocate its limited resources as healthcare spending continues to rise. Therefore resource allocation decisions will need to be based increasingly on information about prevalence, severity and chronicity of disorders and cost-effectiveness of interventions. This will require concern about specific disorders to be based not only on information about prevalence and mortality, but also on disability. This report based on the 'Indonesian National Basic Health Survey (INBHS) 2007' data.

Methods

This Indonesian National Health Survey was employed to 973 662 respondents from 440 subdistricts of 33 provinces. Information on disability was asked to 641 282 respondents age above 14. The instrument of disability was a modified WHODAS-II, Indonesian version. The analysis is exploring the relationship of disability, global and by its components with stroke, heart disease, diabetes, TB, arthritis, and asthma as stated by respondents or ever diagnosed by health professional and psychological distress measured using SRQ. Binary logistic regression was employed for the analysis.

Results

Prevalence of global disability in Indonesia is 31.2% [confidence interval (CI) 30.9–31.5%], the highest prevalence component is difficulties in getting around 15.9% (CI 15.7–16.1), and the lowest is difficulties in self care 3% (CI 2.9–3.1%). Psychological distress is variable with the strongest odd ratio towards disability and its components except self care with OR ranging from 3.4 to 4.7. Variable with strongest OR for self care is stroke, 6.6 (6–7.2).

Conclusions

Using the WHO concept in International Classification of Disability by implementing the modified WHODAS-II, analysis of INBHS 2007 data showed that psychological distress held its strongest contribution across 5 out of 6 domains of disability except self care with multivariate odd ratio more than three. This result pointed out the importance that health service sector should pay attention on the psychological aspects of patients.

Assessment of disability-free life expectancy in Lithuania

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The aim of the study was to evaluate disability-free life expectancy of Lithuanian males and females in 2001 for inclusion in health and social policy formulation.

Material and methods

The data about the Lithuanian population and the deceased were available from the Lithuanian Department of Statistics, while information about the prevalence of disability was obtained from the census performed in 2001, where the question on the disability was included. The method presented first by D. F. Sullivan (1971) was applied for the assessment of disability-free life expectancy.

Results

Disability-free life expectancy of Lithuanian males was 60.6 years, and of females—70.6 years. This comprised 92.0% of males' and 91.0% of females' total life expectancy. At the age of 65, disability-free life expectancy was 6.2 years in males and 11.7 in females (46.0% and 65.0% of total life expectancy in males and females respectively). Disability-free life expectancy declined more intensively with the increase of age, in comparison with the total life expectancy. Disability-free life expectancy of females exceeded that of males by 10 years, while life expectancy with disability did not differ significantly.

Conclusion

Monitoring of disability-free life expectancy, based on officially registered disability and mortality statistics should be used for the assessment of economic and social burden of disability for the society and the state.

Poster Session 8: Occupational health

Occupational health in Poland: contribution of epidemiology

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Background

In 2008, 3,546 cases of occupational diseases were registered (mainly infectious and invasive diseases, chronic voice disorders, pneumoconioses, hearing loss), with the incidence rate of 34.7 per 100 000 employees.

Objective

The objective of this article was to provide a brief overview of recent contributions of epidemiology in assessing occupational hazards.

Methods

MEDLINE was searched for the words 'Poland' and 'occupation' and 'workers' and 'cohort studies' (and 'case-control studies', and 'intervention'). Book chapters, monographs,

relevant news reports, and Web material were also reviewed to find articles.

Results

The outcome of most cohort studies is cancer incidence and mortality. Recent cohorts comprise workers employed in the rubber tire and footwear production, workers in the pulp and paper industry, and workers with exposure to asbestos, lead and cadmium. Prior cohorts include coal miners, cellulose industry workers, and workers occupationally exposed to carbon disulfide, cotton, and dye. Other outcomes studied are occupational disability, noise-induced hearing loss and chronic respiratory diseases. In most case-control studies malignancies are examined. Potential risk factors include ionizing radiation, pesticides, heavy metals, diesel emission, and industrial solvents and dust pollution. Other case-control studies are on contact allergy, voice disorders, reproductive disorders, nervous system functions, hearing impairment, and cardiovascular disturbances. Some studies are part of international multi-centre studies associated with occupational exposures in lung, laryngeal, kidney, and breast cancer.

Conclusions

Occupational health research in Poland has a long tradition. Many of the traditional occupational health problem are studied. New challengers arise from growing psychosocial work factors, and unexpected health hazards from new exposures as well as individual susceptibility, and exposure-response relations. Epidemiology may contribute to understanding of occupation-related risks and preventing the adverse health effects from occupational exposures, and can make to the development of policy, health services and occupational health information in working populations.

Measuring health indicators and work experiences in a salutogenic way. A Swedish developmental work

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Background

Workplace health promotion activities and measures usually have an ill-health perspective. There is a need for a salutogenic perspective when measuring both health and work experiences. Such questionnaire instruments have previously been developed at Kristianstad University College and published (SHIS: Scand J Public Health, 2009. WEMS: WORK, 2009). The purpose is to present these two instruments together in relation to empirical data from hospital settings.

Methods

The SHIS, Salutogenic Health Indicator Scale, consists of nine health related dimensions, constituting two factors, Intrapersonal characteristics and Interactive function. The WEMS, Work Experience Measurement Scale, consists of six dimensions: management, reorganization, internal work experience, pressure of time, autonomy and supportive working conditions. Even if the instruments are built from theoretical complexity they are short, easy to handle and have demonstrated good psychometric properties. The empirical data for SHIS and WEMS emanates from two Swedish hospital studies among 483 and 444 health care staff respectively (response rate 61 and 73%). Correlation is presented as Spearman's rank order correlation coefficient, r_s .

Results

SHIS, and also WEMS, was related to a single-item question on subjective health, $r_s = 0.57$ and 0.33 , respectively. SHIS was higher—indicating better health—among nurses and assistant nurses compared with physicians. According to WEMS, physicians stated more time pressure, more autonomy, and a more positive view on reorganization compared with nurses and assistant nurses.

Conclusions

This empirical study gives an example on how those with highest education—who ought to have good health according to what is known about social determinants of health—have fewer positive indicators of health. Still they have more positive indicators of work experiences. These complex results indicate the need for holistic health instruments like SHIS and WEMS, when interpreting data in order to improve health among employees in a local workplace health promotion context.

Economic difficulties and physical functioning among Finnish and British employees: the contribution of social and behavioural factors

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Background

Childhood and current economic difficulties are associated with physical health but the explanations for these associations have not been adequately investigated. This study aims to examine the contribution of a range of social and behavioural factors to associations between economic difficulties and physical functioning in employee cohorts from Finland and Britain.

Methods

We used cross-sectional survey data from the Finnish Helsinki Health Study ($n = 3843$) and the British Whitehall II Study ($n = 3052$). Participants were white-collar public sector employees aged 45–60 years. Physical functioning was measured with the SF-36 Physical Component Summary. Relative indices of inequality (RII), calculated using logistic regression analysis, were used to examine associations between economic difficulties and physical functioning, and the contribution of further socio-economic circumstances, health behaviours, living arrangements, and work-family conflicts to these associations.

Results

In age-adjusted models childhood and current economic difficulties were associated with poor physical functioning in both cohorts. Further adjusting for work-family conflicts attenuated the associations of current economic difficulties with physical functioning in both cohorts, and also those of childhood economic difficulties in the Helsinki cohort. Adjustments for other socio-economic circumstances also caused some attenuations, while health behaviours and living arrangements had small or negligible effects.

Conclusions

Conflicts between work and family contribute to the associations of economic difficulties with physical functioning among white-collar employees from Finland and Britain. In addition to supporting people to cope with economic difficulties, efforts to improve the balance between paid work and family may help employees maintain good physical functioning and reduce inequalities in physical health.

Two years follow-up study of the project 'Framtidsbygget' with SASSAM methodology as mapping instrument

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Issue/problem

The aim of the project was to make young people (19–29 years old) able to provide themselves after lengthened unemployment.

Material and method

This pilot project includes 61 persons living in the city of Falköping, located in the Vastra Gotaland Region, in the south-west part of Sweden. The project named 'Framtidsbygget' at 'Arbetsliv och integration' in the community of Falköping used a team approach including separate investigations and evaluations by a nurse, a psychologist and other professions when so was needed.

SASSAM methodology was used as mapping instrument. SASSAM (Strukturerad Arbetsmetodik vid Sjukfallgranskning och SAMordanad rehabilitering) was developed by The Swedish Social Insurance Agency (Försäkringskassan). All members of the team were educated in SASSAM methodology. The instrument SASSAM map was used by every individual in the programme to identify resource, liability and motivation for work or study. A team approach including separate investigations and evaluations by a nurse, a psychologist and other professions when so was needed. The final evaluation was presented firstly to the individual and secondly to the concerned commissions. The project was evaluated after 2 years.

Results

In November 2008, 26 persons (42%) were at work, 6 (10%) at study, 14 (23%) received payment from The Swedish Social Insurance Agency and 15 (25%) economic compensation from the Falköpings Community

Discussion and conclusions

After 2 years 52% of young people was able to work or study. 23% was identified for future rehabilitation together with The Swedish Social Insurance Agency. Only 25% needed economic compensation from Falköpings Community. SASSAM methodology was useful in all cases in the whole mapping chain. When the SASSAM map as instrument was used by nurse possibilities to identify field for intensive mapping from other team members with their specific competence were seen. The SASSAM methodology was very useful with communication with The Swedish Social Insurance Agency and other authorities. We assume that knowledge from this pilot project can be used in work, mapping and rehabilitation not only with young persons but also persons in different ages in Falköpings Community in the future.

Non-surgical areas of an operating ward pollution by anaesthetic gases, a geostatistical research method

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Background

Among the most feared chemical hazards in hospitals, sometimes inappropriately, pollution by anaesthetic gases is considered to be of greater impact on the health of staff in operating rooms. The problem can arise, as usual, on the subjective perceptions and a lack of application of scientific evidence in order to assess the risk of anaesthetic gas in its appropriate size. Much has been said about the operating rooms pollution by anaesthetic gases, while little or nothing is known about the contamination of non-surgical areas of operating ward. The aim of this study is to verify non surgical health staff exposure to anaesthetic gases when performing their job, in order to sample gas concentration in passageways (corridors), technical rooms, instruments storage room, recovery room and ward sister's room.

Methods

Sampling was carried out by a photoacoustic spectrophotometer with a single point sampling probe positioned 80–100 cm far from the ground to measure gas concentration (sevoflurane and nitrous oxide). We also evaluated environmental gas concentration using spatial data modelling techniques, in order to assess anaesthetics diffusion and non surgical areas of operating ward pollution. Geostatistics may be applied to study the behaviour of every kind of variables, their auto and mutual correlations, and by means of a specific software, we obtained different iso-values maps of gas concentration.

Results

Our results show that nitrous oxide average concentration in passageways is 1.13 ppm [95% confidence interval (CI) 1.132171–1.136638], in ward sister's room average concentration is 1.26 ppm (95% CI 1.254324–1.2691478), and in recovery room average concentration is 4.85 ppm (95% CI 4.820463–4.897549). Sevoflurane average concentration resulted 0.45 ppm in passageways (95% CI 0.449075–0.461991), 0.41 ppm (95% CI 0.409237–0.415332) in ward sister's room and 1.06 ppm (95% CI 1.058889–1.062161) in recovery room.

Conclusions

These results demonstrate that operating ward health personnel is subject to a risk from exposure to anaesthetic gases even if their job does not bring them to stay in the operating room.

Physiological effects of a modification of impermeable protective clothing construction

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Protective clothing impermeable to air and water vapour affords good protection against chemical agents present in the surroundings but makes exchange heat between a human body and the environment difficult, especially in a hot environment. The study was conducted to improve the construction of impermeable clothing protecting against liquid chemical agents in order to lower the thermal strain of the clothing used during work. Authors proposed a modification of the construction and new models of protective clothing were tested in wear trials and then the results were compared with a basic model of impermeable protective clothing.

Six fire-fighters participated in the study. Chemical protective clothing L2 available on the Polish protective clothing market, was applied in the study. Construction modifications of the basic L2 model included: (i) improved air flow inside the clothing, (ii) applied refills of high sorption fabrics in pockets under outer clothing, (iii) applied forced air flow inside protective clothing. The study was conducted in a climatic chamber in air temperature of 40°C, while the participants were walking on a treadmill with the speed of 3 km/h. Physiological parameters (heart rate, core and skin temperatures) and temperature and relative humidity under clothing were registered.

Changes in physiological parameters indicated that all prototypes made work in a hot environment possible, with lower physiological strain than in the basic model—in protective clothing L2. Also humidity under the clothing confirmed that the prototypes ensured better comfort properties than protective clothing L2. All new models of protective clothing allowed workers to work for 39 to 64% longer than in a basic model of protective clothing. So new clothing models significantly improved comfort of work in impermeable protective clothing because of lower thermal strain that protective clothing imposed on the user.

Assessment of the dermal exposure to pesticides among women working in Polish greenhouses after restricted entry intervals expired—role of the personal protective equipment

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Background

Pesticides have been used since the early days of modern agriculture. They are biologically active compounds, which may pose a health risk during or after use. Pesticides may enter to the body by dermal absorption, inhalation or oral absorption. The objective of the study was to assess the level of the azoxystrobin sprayed for a group of women working in a vegetable-growing greenhouse.

Methods

Exposure samples were collected on two days during the spring: first entry on the day after spraying of azoxystrobin and second entry six days later. Dermal exposure was measured by using patches on the outside of clothing and sampling gloves underneath regular working gloves. Measurements of pesticide concentrations in gloves and patches were performed with liquid chromatography and mass spectrometry technique (LC-MS/MS).

Results

This study has shown that workers in a Polish greenhouse are indeed exposed to pesticides at re-entry into the greenhouse after spraying pesticides on previous days. Dermal exposure levels to azoxystrobin have been detected on hands, shoulders and chest.

Conclusions

Women working in a vegetable-growing greenhouse and not directly engaged in the process of spraying have a measurable dermal exposure to pesticides. The personal protective equipment does not properly protect the workers and can be even the sources of the secondary exposure. More efficient personal protective equipment for proper protection of women working in vegetable greenhouses is needed.

AMIANTUS project—medical examination for the former workers of asbestos-processing plants in Poland

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In Poland, the Law putting a ban on the use of asbestos-containing products of 19 June 1997 as well as relevant decrees and regulations issued on its basis are essential legal instruments that regulate protection against asbestos. To implement the provisions of the aforesaid Law, the Ministry of Health has initiated the AMIANTUS programme of prophylactic examinations addressed to former workers employed in the listed 28 asbestos processing plants.

The strategy of prophylactic examinations performance has been developed and the supervision over mass examinations of former workers of asbestos processing plants in Poland has been rendered by the Nofer Institute of Occupational Medicine in Łódź. The accomplishment of these tasks was based on the Helsinki Criteria as well as on recommendations and thoroughly specified criteria for radiological, clinical, histological diagnostics and exposure assessment in case of asbestos-related diseases. The rendering of prophylactic examinations is supervised by 13 regional occupational medicine centres.

Owing to the implementation of the programme in the years 2001–08, it was feasible to collect information about 6448 persons whose examination forms had been sent to the coordinating centre. In this period, 15666 prophylactic examinations were performed. Asbestosis was diagnosed in 1284 (17%) of those examined, lung cancer in 55 and mesothelioma of pleura in 31 persons. In an eighth-year period of the AMIANTUS programme implementation, the percentage of diagnosed asbestosis increased from 7% in 2001 to 25% in 2008. It should be noted that the detection of pathologies related to asbestos dust exposure has evidently increased since the initiation of the prophylactic examinations programme.

Epidemiology of fatal occupational accidents in the Arkhangelsk region, Russia, 1996–2007

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Background

Fatal occupational accidents (FOA) are a considerable burden in many countries. Occupational deaths are more common in Russia than in Europe. The economy of Arkhangelsk region (Northwest Russia) is based mainly on forestry, pulp-and-paper and timber industries with many occupational hazards. High humidity, winds and cold temperatures further increase the risk of occupational injuries. However, no studies on FOA have been performed in the region. We aimed to assess the incidence of FOA in the Arkhangelsk region from 1996 through 2007.

Methods

A descriptive study. Data on all reported FOA in the Arkhangelsk region in 1996–2007 were obtained from the State Labor Inspection. Data on the number of employees were collected at the regional federal state statistics service. The incidence of FOA was calculated separately by age, gender and branches and presented per 100 000 employed.

Results

The overall incidence of FOA for the study period was 9.3 (95% CI 6.9–11.6). The male to female rate ratio was 13 to 1. Agriculture, hunting and forestry sector showed a gradual decrease in FOA from 43.9 (95% CI 28.7–59.1) in 1996 to 24.1 (95% CI 10.4–40.9) in 2007. Similar decrease during the study period occurred in manufacturing and mining sector, from 10.8 (95%CI 6.0–15.7) to 6.5 (95% CI 2.2–10.7). In manufacturing, the largest proportions of FOA were in timber processing (40.2%) and pulp-and-paper industry (24.9%). At the same time, the incidence of FOA in transport and communication increased from 5.1 (95% CI 0.1–10.1) in 1996 to 12.4 (95% CI 3.2–21.6) in 2007. In construction, the corresponding numbers increased were 9.8 (95% CI 0.2–19.5) and 15.0 (95% CI 0.3–29.7).

Conclusions

The incidence of FOA in the Arkhangelsk region is high and shows different trends by branch over time. The findings should increase awareness about occupational hazards and stimulate evaluation of the safety system weaknesses in branches with the highest incidence of FOA.

Socio-economic position and occupation as determinants of general and occupational injury related sickness absence

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Background

It is well known that both sickness absence and occupational injuries are more common among lower socio-economic position groups and certain occupations. The aim of this study is to examine (i) the interrelationships between multiple socio-economic position measures and occupation with general and occupational injury related sickness absence and (ii) differences between socio-economic gradients of general and occupational injury-related sickness absence.

Methods

This study is a register-based study. The study included municipal employees of the City of Helsinki, aged 25–59 years. The preliminary data included year 2003 and the number of participants was 21 599 women and 5841 men.

Socio-economic position was measured by three-level education, four level occupational class, and gross individual income quartiles. Two outcome measures were used: medically confirmed sickness absence spells of four days or longer, firstly, for all-cause reasons, and secondly, for occupational injury caused reasons. Poisson regression analysis was used. Data set for prospective analyses will include follow-up time until 2008.

Results

Preliminary analyses showed that education, occupational class and income were individual determinants of both general and occupational injury related sickness absence. Among men, manual workers had 2.7 times more often general sickness absence and 7.5 times more often occupational injury related sickness absence than managers. Thus, socio-economic gradient was 2.7 times steeper on occupational injury related sickness absence. Among women, manual workers had 2.0 times more often general sickness absence and 5.9 times more often occupational injury related sickness absence than managers. Respectively, socio-economic gradient was 2.9 times steeper on occupational injury related sickness absence among women. Similar, but not as large differences were found on education and income.

Conclusions

Steep socio-economic position gradients exist in both general and occupational injury related sickness absence. The socio-economic differences were several times wider in occupational injury related sickness absence. In order to reduce inequalities in sickness absence, more measures should be carried out to prevent occupational injuries.

Work-related injuries due to violent events: a 7-year follow-up study of self-reported psychiatric symptoms and general health

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Background

Work-related violence is considered one of the most serious threats to employees' safety and health.

Aim

To investigate self-rated psychiatric symptoms and health 7 years after an accepted work-related injury due to violent events.

Methods

The study population comprised 607 employees in Sweden who incurred violence-related injuries/disorders at work in 1994. In 2001, these individuals were asked to respond to a postal questionnaire including symptoms of post-traumatic stress disorder (PTSD), depression, and health. In all, 291 people answered the questionnaire. Data from 1994 covering type of violent events, gender, age, occupation, and disability allowance for all 607 employees were obtained from the AFA Insurance injury-database.

Results

The work-related violent events reported most often included robbery, followed by threats/violence and 'person-under-train' incidents. 33% of the women and 28% of the men reported five or more PTSD symptoms. Among women, 10.3% reported major depression and 25.3% rated their health as poor; the pattern was similar for men. Major depression and PTSD were about twice as common in subjects exposed to threats/violence [odds ratio (OR) 2.37; 90% confidence interval (CI) 1.12–5.00] and (OR 1.94; 90% CI 1.12–3.39), respectively, compared with subjects exposed to other types of work-related violent events.

Conclusions

This 7-year follow-up revealed a high prevalence of self-rated symptoms of depression, PTSD symptoms, and poor health in the study participants. Health problems were more common after exposure to threats/violence compared with other types of violent events. Thus early interventions involving prevention, education or counselling, are warranted to avoid continued poor health in people exposed to work-related violent events.

Effort-reward imbalance and risk of sleep disturbances in the Danish Work Environment Cohort Study

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Background

Sleep disturbances are associated with a wide range of health problems and diseases, including coronary heart disease, diabetes, obesity, and depression. The aim of this study was to analyse if adverse psychosocial working conditions, defined by the model of effort-reward imbalance (ERI), increase the risk of sleep disturbances in the Danish workforce.

Methods

We analysed data from 2351 gainfully employed Danish residents, aged 18–59 years (50% women), from the Danish Working Environment Cohort Study, which is a representative sample of the Danish workforce. All participants were free of sleep disturbances at baseline. ERI was measured with four items on effort spent at work and seven items on reward received (two items on financial and status reward, three items on esteem reward and two items on job security reward). An ERI ratio was calculated by dividing the effort scale through the reward scale, resulting into a ratio, in which higher values expressed a higher level of imbalance between high effort and low reward. Sleep disturbances were measured with two items, addressing problems with falling asleep and problems with awakening without being able to fall asleep again. Covariates included socio-demographic variables, health behaviours, self-rated health, history of sickness absence, occupational grade, weekly working hours, and shift work. To analyse the effect of effort-reward imbalance at baseline on onset of sleep disturbances at 5-year follow-up we conducted gender-stratified linear regression analyses.

Results

Of the 2351 participants, 304 (12.9%) showed sleep disturbances at follow-up. Among men, a 1 standard deviation increase of the ERI-ratio was associated with a 1.39 increased risk of onset of sleep disturbances at follow-up [95% confidence interval (CI) 1.03–1.87], after adjustment for all covariates. Among women, ERI was not associated with an increased risk of sleep disturbances (odds ratio 0.97, 95% CI 0.76–1.24).

Conclusion

ERI is a risk factor for the development of sleep disturbances among men in the Danish workforce. Improving psychosocial working conditions might reduce the risk of sleep disturbances and subsequently also help to prevent clinical disorders related to sleep disturbances.

Job strain, work-related rumination, self-efficacy and sleep among knowledge workers

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Background

The prevalence of sleeping problems, stress and absenteeism from work is increasing in many societies. Research indicates

that a stressful job has a negative effect on sleep, and that lack of restorative sleep has adverse effects on health. This paper investigates the relationship between job strain, work-related rumination and sleep quality among knowledge workers, as knowledge work and its associated conditions are becoming increasingly common. Some studies have indicated that the effect of control over demands depends on individual levels of self-efficacy. Hence, it may be necessary to consider this variable if job control opportunities are to have positive effects. This paper also investigates the role of general self-efficacy in the relationship between job-strain and sleep quality.

Methods

We used cross-sectional self-report data from Danish knowledge workers ($n=406$, 57% women, aged 20–62). Job strain was measured as a combination of job demands and control, creating four groups: low strain, active, high strain and passive. Sleep quality was measured by an awakening index (AWI) and a disturbed sleep index (DSI). Associations and interactions were estimated through univariate ANOVAs.

Results

Participants with high strain jobs had poorer DSI scores than those with less straining jobs ($P=0.012$). Participants with high strain and active jobs had poorer AWI scores than those with low strain and passive jobs ($P=0.007$). Including rumination in the analyses removed the effect of job strain on the AWI, and reduced the effect on the DSI, although this remained significant ($P=0.032$). There was no interaction between the effects of job strain and general self-efficacy on sleep quality.

Conclusions

Although the cross-sectional nature of the data makes causal inferences tentative, the results indicate that job characteristics are associated with the ability to restitute after work, and that this association is partly mediated by work-related rumination. These findings point to complementary intervention routes to attenuating some of the hazards of modern working life: improving working conditions by reducing job strain and helping workers deal with working conditions by modifying maladaptive cognitive patterns.

A comparison of GPs' sick-listing certification practices in southwest Stockholm 2004–08

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Issue/problem

In order to get sickness benefits a sick-listed person needs a certificate from a physician. Evaluating work capacity and issuing certificates are frequent tasks in primary health care. The quality of the medical consultation and the issued certificates is vital for the sick-listing process since other actors, including the sick-listed person, are dependent on how the physicians full-fill this task. Since 2007 Sweden has national guidelines regarding sick-listing certification principles.

Description of the problem

In order to compare practice and to identify quality parameters regarding sick-listing, 27 primary care units in the south-west of Stockholm collect data from the sick-listing certificates. Today we have data from 2004 to 2008 in the database. The parameters are chosen to describe practice in agreement with the national guidelines.

The project is supposed to answer the following questions:

- What is quality in sick-listing practice
- How to measure quality in sick-listing practice on a regular basis
- Which quality-indicators are useful in order to develop good practice
- What are the trends regarding changes in practice over time

Results

Number of days prescribed, information on the certificate and measures taken are examples of parameters that might be measured by collecting data from issued certificates stored in the patient records. Today we have data on 18 parameters from the period 2004–08 and we will, together with other county councils, decide which of these we will establish as quality indicators.

Lessons

Quality assurance regarding health care work in public health issues such as sick-listing practice is important. It takes time and the involvement of the health care workers in the process is vital. Data collection must be easy and not time-consuming for the units involved.

Workers or workplace? Determinants of sickness absence in transitional Russia

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Background

Sickness absence is more common in Russia than the EU, and has high economic and personal costs. Poor health, heavy drinking and smoking, job insecurity and unsatisfactory working conditions, all known determinants of sickness absence, are widespread. Their relationships are studied using survey data.

Methods

Data were from employed respondents aged between 18 and 59 years from the 38-centre Russia Longitudinal Monitoring Survey. Sickness absence within the last 30 days was subdivided into shorter (1–3 days) and longer (≥ 4 days) absences. Trends were measured over nine study rounds (1994–2004). Cross-sectional determinants of sick leave in 2004 were studied using uni- and multivariate logistic regression.

Results

There was a weak overall decline in reported sickness absence between 1994 (males 9%, females 10%) and 2004 (7%, both sexes). The following variables were significant independent predictors of sickness absence in 2004 in the multivariate models (age adjusted odds ratios, 95% confidence intervals reported). Chronic heart or lung disease strongly predicted sick leave of ≥ 4 days in men and women respectively [3.24 (1.88–5.59); 4.50 (2.82–7.17)], and 1–3 days [5.40 (2.29–12.72); 3.60 (1.56–8.29)]. Longer absences in both sexes were also associated with other chronic disease [2.27 (1.49–3.45); 2.21 (1.51–3.24)] and current smoking [3.87 (2.16–6.94); 1.50 (1.04–2.17)]. Longer absences were also associated with low job satisfaction [males: 1.58 (1.26–1.97); females: 1.30 (1.08–1.57)], and access to paid sick leave in women [2.39 (1.24–4.59)]. A dangerous workplace predicted absences of ≥ 4 days in men [2.17 (1.42–3.30)], and shorter periods in women [2.45 (1.15–5.25)]. Alcohol and socio-demographic factors were not strong predictors.

Conclusions

Initiatives to reduce sickness absence in Russia will need to address multiple determinants: chronic disease, smoking and poor working environments. The surprisingly weak relationship with alcohol consumption suggests that the familiar 'zapoi' (drink-related leave) may not be regarded as 'sickness' by employers or employees, and requires specific questioning.

Validity of self-reported data on long-term sickness absence and disability pension in a Swedish twin cohort

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Background

In epidemiological studies, data on self-reported sick leave and disability pension are frequently used. The aim of this study was to compare self-reported and register-based information of long-term sickness absence (LTSA) and disability pension (DP) in a Swedish twin cohort. Comparisons between monozygotic (MZ) and dizygotic (DZ) twins in reports of LTSA and DP could provide new insights on whether familial factors influence reporting.

Methods

Adult twins ≤ 65 years of age who participated in a structured interview 1998–2002 were included ($N = 32\,453$). The self-reported occurrence of LTSA and DP at the time of the interview was compared with the corresponding register information retrieved from the Swedish National Social Insurance Agency by calculating the proportion of overall agreement, Kappa, and pair wise concordances, to evaluate construct validity.

Results

Preliminary results show that 1027 (3.2%) individuals reported LTSA (66% women) and 2769 (8.5%) individuals reported DP (61% women). The proportion of overall agreement of self-reported DP with the computerized register information was 88% ($\kappa = 0.75$). The overall agreement was almost equal for MZ and DZ twins, 86 and 88%, respectively.

Conclusions

A good overall agreement was found between self-reported and register information on DP. Hence, self-reported data on DP may be useful in epidemiological studies when register data are not at hand.

Trends in the incidence of sickness absence due to common mental disorders between 2001 and 2007 in the Netherlands

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Background

Mental disorders are an important public health problem because of their prevalence and risk of long-term work disability. The incidence of sickness absence due to mental disorders has increased between 1985 and 2000, but little is known about trends in recent years. This study investigated the incidence of sickness absence due to common mental disorders in the Netherlands from 2001 to 2007.

Methods

Observational epidemiologic study in about 1 million employees working in different economic sectors representative for the Dutch workforce. Sickness absence episodes were medically certified by an occupational physician utmost in the fifth week of absence. The 12-month incidence of medically certified sickness absence was calculated for each year by dividing incident episodes by the number of employees, and stratified by age (20–29, 30–39, 40–49 and 50–59 years) and gender. Sick days due to common mental disorders were computed as percentage of the total number of medically certified sick days in the economic sectors construction, trade, financial services, food/drink/tobacco, health care, postal service & communication, education and manufacturing industry.

Results

The 12-month incidence of sickness absence due to common mental disorders was 2.2% in 2001, increased to 2.7% in 2004 and decreased thereafter to 2.0% in 2007. Sickness absence due to common mental disorders occurred more often in women than in men, but the 12-month incidence showed a negative quadratic trend in all age groups of both sexes. The percentages of sick days with common mental disorders were highest in education (39%), financial services (31%) and health care (30%), and lowest in manufacturing industry (22%) and construction (16%).

Conclusions

In the Netherlands, the incidence of sickness absence with common mental disorders was highest in 2004 and has decreased since then probably because of changes in sick-leave compensation, economic market position and company policies.

Sick-leave diagnoses and length as risk markers for suicide—a 12-year follow-up cohort study of 229 470 women and men

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Background

High levels of sickness absence have been recognized as a strong risk marker for all-cause mortality. Studies of the association between sickness absence and suicide mortality, however, are sparse. Knowledge about length and diagnoses of sickness absences may have important implications for the prediction and consequently for the prevention of suicide. The aim of this study was to examine all-cause sickness absence, diagnosis-specific sickness absence, and number of sick-leave days and spells as risk markers for mortality due to suicide.

Methods

A population-based prospective cohort study. All non-retired people of the County of Östergötland, Sweden, aged 16–64 years at study entry, 1 January 1985; ($N = 229\,470$) were investigated with regard to suicide mortality (1985–96). Participants with new sick-leave spells > 7 days, during 1985 were compared with participants with no such sick-leave spells in 1985. Sick-leave diagnoses were categorized into the 18 ICD-8 chapters.

Results

All-cause sickness absence > 7 days was associated with a 2-fold elevated suicide risk. The risk of suicide was highest for those having been sickness absent with mental diagnoses, hazard ratio (95% confidence intervals) 9.2 (4.8–14.6), followed by sickness absence due to ‘symptoms, signs, and ill-defined conditions’ 3.2 (1.4–7.2), infections and parasitic diseases 2.2 (1.0–4.5), diseases of the musculoskeletal system and connective tissue 1.9 (1.0–3.8), or injuries/poisoning 2.3 (1.2–4.5), adjusted for sex, age and length of absence. Sickness absentees with mental diagnoses and > 30 sick-leave days had the highest risk of suicide mortality with a steep risk increase in the first 2 years of follow-up.

Conclusion

Sickness absence appears to be a clear risk maker for suicide, both in a short- and long-term perspective. This risk differs substantially by diagnosis and was highest for individuals with mental sick-leave diagnoses.

Sickness certification process in Sweden: new results

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Background

To handle sickness certification has been said to constitute a psycho-social work problem for physicians, especially orthopaedic surgeons (OS) and general practitioners (GPs). Levels of sickness absence are high in Sweden but have fallen since an all time peak in 2003.

Aim

To study occurrence and possible changes in rate of physicians who experience sick-listing problems.

Methods

A postal questionnaire was in 2004 and 2008 sent to all physicians <65 years in two Swedish counties. Response rates were 71 and 61%, respectively. Answers to six questions on emotionally straining issues were analysed for those stating they performed sickness certification; $n=3997$ in 2004 and 4050 in 2008. The answers from OS and GPs were compared with those of other physicians.

Results

Rate of physicians seeing more than six sick-listing patients/week was reduced from 62 to 39% since 2004 among GPs. The reduction among OSs and other physicians was much lower; 82 to 78% and 44 to 39%, respectively. Fewer GPs (60 vs. 50%) and OSs (53 vs. 46%) in 2008 found it problematic to handle sickness certification at least once per week. The rate of GPs finding it problematic to handle situation where physician and patient have different opinions on the need for sick-leave, was reduced from 83 to 67%. The rate worrying at least monthly that a patient would report them to the disciplinary board in connection with sickness certification reduces by half to 6%.

Conclusions

The rates of physicians experiencing emotionally straining issues in sickness certification have decreased. The many interventions after 2004 to increase quality in the sickness certification process, might have affected physicians' work environment in a positive way, but the results may also be due to effects of the decrease in sickness absence.

Sickness absence in musculoskeletal disorders—patients' experiences of interactions with the social insurance agency and health care. A qualitative study

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Background

In Sweden disorders of the musculoskeletal system cause one third of all cases with sickness absence and disability pension. The social insurance agency and the health care system are important actors within the sickness absence process, however little is known about the patient's experiences of interacting with both systems.

Objective

To explore how patients with sickness absence due to musculoskeletal disorders experience their contact with the health care system and the social insurance agency and what they describe as important factors for recovery and return to work.

Methods

In-depth interviews using open-ended questions were conducted with 15 informants (aged 33–63 years, 11 women),

all with experience of sickness absence due to musculoskeletal disorders and purposefully recruited to represent various backgrounds concerning diagnosis, length of sick leave and return to work. The interviews were conducted in the southern region of Sweden, audio-recorded, transcribed verbatim and analysed using content analysis.

Results

The contact with the health care system was described as being dependent on the presence or absence of a holistic approach. The contact with the social insurance officers was described as being unpredictable and the organization as hard to grasp. Important factors for recovery and return to work were the possibility to handle the economic, social, psychological and labour market related consequences of the sickness absence and the support offered in these areas.

Conclusions

Patients on sick leave due to musculoskeletal disorders expressed a desire to achieve support from the health care system for the mental and psychological needs they had. They also described a need for support concerning practical issues in relation to sickness absence, and for more active and persevering rehabilitation efforts from the social insurance agency.

Associations between health status and sick leave in workers with chronic disorders: the role of working conditions

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Background

To improve participation of chronically ill individuals in the labour force, determinants of sick leave should be known. Work characteristics may influence the burden of ill health for this group. The aim of this study was to gain insight in the effects of work characteristics on the association between health characteristics and sick leave among employees with chronic disorders.

Methods

A secondary analysis of the Netherlands Working Conditions Survey, a random sample ($n=22\,759$) of the Statistics Netherlands (CBS) Jobs Database, was performed. Employees with a chronic illness, aged 15–64 years, were selected ($n=7\,748$). Multivariate logistic regression analyses were performed to calculate changes in the association between health characteristics and sick leave percentage (SL) following the addition of work characteristics to the model. A change in beta of more than 10% was considered as relevant. Similar analyses were performed within several groups of chronic disorders (e.g., musculoskeletal disorders, asthma/COPD).

Results

Worse health characteristics were significantly associated with higher SL in the total group. The association between health (functional limitations at work) and SL decreased with 10.8% after adding work characteristics. In back or neck, mental disorders, and diabetes, the association decreased, whereas in the group of disorders of the legs or feet, arms or hands, the strength of the association increased. In workers with migraine, asthma/COPD, bowel disorders, and cardiovascular disease the association did not change significantly.

Conclusions

Work characteristics significantly changed the association between health and SL, although differences exist between groups of workers with different chronic disorders.

A multi-state model on official registered sick-leave data—applied on a 5-year follow-up after occupational rehabilitation in Norway

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Background

Follow-up studies on return to work (RTW) have several inherent problems, tending to distinguish only between those working and those not working, measured at a single point of time. RTW is a complex process, where the individual may be in multiple and recurrent states; i.e. working, sick-listed, part time working/sick-listed or on disability pension. The individual may also shift between these states during follow-up. The aim of this study was to describe the evolving RTW process in a 5-year follow-up period after a 4 weeks inpatient occupational rehabilitation programme.

Methods

The sample consisted of 584 patients (66% females, mean age 44 years [standard deviation (SD) 9.3], long-term sick-listed; mean duration 9.3 months (SD 3.4) for psychological (47%) and musculoskeletal (46%) diagnosis. Register data from The National Insurance Administration in Norway over a 5-year follow-up period was analysed. Outcome was measured in a five-state model: working, sick-listed, medical rehabilitation, vocational rehabilitation and disability pension. Extended statistical tools were used to calculate transition probabilities between the different states.

Results

During the 5-year follow-up period the patients had on average 4.7 [range 1–19] shifts between the 5 different states. Four-percent RTW immediately after participation in the rehabilitation programme, 63% were sick-listed, and 20% were on medical/vocational rehabilitation. After 8 months 45% RTW and 5% were sick-listed. After 5 years 60% RTW, 2% were sick-listed, 15% were on vocational rehabilitation, and 22% received disability pension. Significantly more men returned to work and more women received permanent disability pension.

Conclusions

Findings indicate that the RTW-process for long-term sick-listed individuals is long. Despite poor RTW immediately after occupational rehabilitation, the long-term RTW-prospects seem advantageous. It is of interest to examine what role environmental and legal system factors and of the work-place and health-care providers play in this prolonged RTW course.

Predictors of return to work in patients sick-listed with sub-acute low back pain: A one-year follow-up study

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Background

Studies investigating how to facilitate return to work for employees sick-listed due to musculoskeletal problems are numerous. However, it has been difficult to compare the effects of these interventions, which in recent years usually have been multidisciplinary. The appropriate content of such interventions needs further investigation. The aim of this study was to investigate which of two interventions (multidisciplinary and brief) among other variables was predicting return to work.

Methods

In a randomized intervention study on employees sick-listed with sub-acute low back pain, analyses were performed to identify predictors of return to work. The outcome measure was 'readiness to return to work' (RRTW), defined as 4 weeks in a row receiving no social transfer payments or receiving unemployment benefits. Background variables collected in a questionnaire at entry-time were sorted into six categories: (i) socio-demographics, (ii) socio-economics, (iii) physical health, (iv) psychological health, (v) lifestyle and (vi) working conditions. A univariate analysis was carried out. Those which on a 0.1 significance level were found to be associated with RRTW will be included in multivariate-regression models as well as variables identical with those identified in studies included in a previous review. Cox's proportional hazards model will be used.

Preliminary results

Out of 344 individuals included in the study, 260 (76%) were categorized RRTW within the first year of follow-up. Those who owned their residence were more likely to be categorized RRTW than tenants ($P < 0.01$), whereas job type, income and type of intervention were less important. Pain, disability scores (Rolland Morris), physical and mental health (SF36) and quality-of-life (Euro-Qol-5D) was highly associated with RRTW. Job satisfaction, influence at work and self-reported workability was associated with RRTW. Results from the final modelling will be presented.

Conclusions

It seems important that multidisciplinary interventions take health factors, socio-economics as well as workplace factors into account.

Organizational implementation barriers in interdisciplinary and coordinated return-to-work interventions in Denmark

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Background

Previous research has shown that interdisciplinary and coordinated rehabilitation activities can decrease time to return-to-work (RTW) and improve health status for people on long-term sick leave. However, these types of interventions are subject to organizational mechanisms that affect outcome. In Denmark, the municipalities are responsible for providing sickness absence benefits and managing the RTW-process. In this study, we are evaluating organizational implementation barriers for RTW interventions in four municipalities.

Methods

The interventions in this study are carried out by private companies in collaboration with municipal case managers at four intervention sites. Participants are on sickness absence due to either musculoskeletal or common mental disorders. Data on the implementation process is collected through interviews with intervention teams, municipal case managers and selected participants from each intervention site.

Results

Preliminary analyses show that clear and formalized communication between intervention teams and municipal workers is essential for reducing municipal workers' insecurity about intervention benefits—and thus in creating a productive link between intervention and participants. Inclusion criteria must be flexible and match the needs of the municipalities in order to create a seamless visitation procedure. In addition, communication (and consensus) about norms regarding activities in and length of the RTW process reduces discrepancies in perceptions and assessments of the intervention. This is important in order to create a satisfactory process

for participants, intervention teams and municipal workers. Finally, clear role definitions between municipal workers and intervention teams are necessary to avoid uneasiness among participants.

Conclusion

Detailed analyses of implementation are an important but sometimes neglected part of intervention research. Visitation procedures and cooperation between different actors in the process must be considered carefully, and formal or informal communication channels should be established.

At the time of the conference, more detailed analyses of the implementation process will be available.

Work status, functional ability and health 3 years after participation in an occupational rehabilitation programme

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Background

Multidisciplinary occupational rehabilitation is offered to long-term sick-listed individuals with diagnoses related to complex and unspecific musculoskeletal and psychiatric health complaints. The aim of this study was to investigate the relationship between status on work and reimbursements and functional ability, subjective health complaints, and coping 3 years after participation in an occupational rehabilitation programme.

Methods

Out of 632 individuals, 358 (57% response rate) participated in a 3-year follow-up study after participation in an occupational rehabilitation programme in 2004 [267 females (74%), mean age 45 years; standard deviation (SD) 9.1; mean sick leave length before rehabilitation program: 39 weeks]. Data on work status, work-related functioning (Norwegian Function Assessment Scale, NFAS), subjective health complaints (Subjective Health Complaint Inventory), and coping (Utrecht Coping List) were measured in addition to demographic baseline data regarding work status and sick-leave history before the rehabilitation programme.

Results

One hundred and ninety-seven (58%) of the participants reported that they were working full-time or part time (>50%) 3 years after the rehabilitation programme. There were few significant differences between those reporting working 50% or more and those working less than 50%. However, those working <50% at follow up, reported lower functional ability by the NFAS subscores: holding/picking up things [odds ratio (OR) 4.5; confidence interval (CI) 2.56–7.78], managing (responsibility and strains in daily life, controlling anger etc.) (OR 2.4; CI 1.35–4.43), and cooperation/communication (memory, public speaking, and perception of oral and written information) (OR 2.1; CI 1.16–3.64) (adjusted for gender and age) compared with those working 50% or more.

Conclusion

Lower work-related function (the skills to hold/pick up things, manage and cooperate) characterized the participants working <50%, 3 years after occupational rehabilitation. Our findings indicate that it may be helpful to practice these skills in the rehabilitation process. This may increase the likelihood of return to work.

Rehabilitation activities, supportive work conditions, work ability and return to work among female human service workers on long-term sick leave in Sweden 2005–08

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Background

Despite increased political and research interest in return to work issues, the prevalence of long-term sick leave is still high in Sweden, especially among female workers in human service organizations (HSO). In Sweden, the employer is responsible for ensuring that occupational rehabilitation is carried out at the workplace. There is a lack in knowledge what is facilitating increased work ability and return to work.

Aim

To investigate the importance of rehabilitation activities, in particular occupational rehabilitation at the work place and the influence of supportive work related conditions for work ability and return to work among female HSO workers on long-term sick leave.

Methods

A cohort of female HSO workers on long-term sick leave (>60 days and >50% sick leave degree, $n=324$), started in 2005. They were followed every 6th month. Self-reported instruments and register-data of sick leave were analysed with relative risk (RR) and one-way variance analysis (ANOVA). An open question were analysed with content analysis. Outcomes were increased Work Ability Index (range 7–49) and working degree (0–100%).

Results

Small steps of recovery and increase in return to work was found in relation to all kinds of rehabilitation activities but especially to occupational rehabilitation at their work-place [RR 1.78 (95% CI 1.38–2.29)]. Being pleased with the employers efforts for them to return to work were also associated with increased work ability [RR 1.91 (95% CI 1.14–3.19)]. Occupational rehabilitation at the own work place was stronger associated with increased return to work when supportive work-related conditions (e.g. lowered quantitative demands, influence and work satisfaction) and a sense of welcome back, were present.

Conclusion

A sense of 'welcome back to the workplace' is essential for increased work ability and return to work among female HSO- workers on long-term sick leave.

Patient's experiences of encounters with professionals regarding return-to-work issues following breast cancer surgery—a qualitative study

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Background

Breast cancer incidence and survival rates have increased, but research on factors effecting return to work (RTW) after treatment is scarce. Patients meet several different professionals from various stakeholders in this process and these encounters may have a pivotal role for the women's RTW.

Aim

To gain knowledge on women's experiences of encounters concerning return to work after breast cancer surgery.

Methods

Qualitative analyses of data from four focus group interviews of 23 women 2–8 months after breast cancer surgery.

Groups were strategically composed with regard to treatment (chemotherapy/not) and age (<55, ≥55 years), respectively, to increase homogeneity. The interviews were audio taped, transcribed verbatim, and analysed inductively through content analysis.

Results

Two main themes were identified in the statements of encounters with professionals: Flexibility involved statements on how health care personnel or social insurance officers handled matters of e.g. RTW or sickness benefits, as well as their

attitudes towards work/sick leave—some advised against RTW some encouraged this. Information mainly concerned lack of such, e.g. where to turn in matters of return-to-work, matters of rehabilitation and regulations regarding sickness benefits.

Conclusion

Women with breast cancer lack flexibility and information from professionals regarding RTW issues. Easing the process of RTW can be significant as work life play an important role in regaining health.

Friday 27 November 2009, 15:00–16:30

Poster Session 9: Infectious diseases

The global trend of infectious diseases in Italy in the last decade

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Background

This descriptive analysis has been carried out as a preliminary work of two larger projects. The first is a project of the International Center for Immunization Strategies (ICIS), started in 2008 and aimed to estimate the health status in Italy in 2028. The second is a project led by the Dutch National Institute for Public Health and the Environment (RIVM) and financed by the ECDC, planned to measure the burden of communicable diseases in Europe.

Methods

Age-standardized annual incidence rates, stratified by gender and geographical region, and age-specific annual rates for the period 1996–2006 were calculated using the official data of the Italian Ministry of Health and the National Institute of Health.

Results

Non-typhoid salmonellosis, tuberculosis and acute infectious diarrhoeas were the most frequent infectious diseases in 2006 (11.1, 7.0 and 5.0 cases per 100 000 inhabitants in 2006, respectively). Vaccine-preventable diseases had a lower incidence than other diseases. There was a North to South gradient for most diseases, probably due to under-diagnosis and under-notification in southern Regions. An increasing trend could be detected only for some diseases without available vaccines or implemented vaccination strategy (legionellosis, syphilis, gonorrhoea, acute infectious diarrhoeas, listeriosis, pneumococcal meningitis).

Conclusion

More efforts are needed to develop new vaccines and to improve vaccination coverage. A more aggressive preventive strategy is needed also for diseases such as tuberculosis and AIDS that despite a decreasing trend, pose an high burden on the health status of the population.

How many bacteria live on the keyboard of your computer?

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Introduction

Computer keyboard contamination has been studied in hospitals because nosocomial infections can be caused by

transfer of pathogens from the hands of personnel to patients. Due to the widespread use of computer, such problems should also be investigated in other environments with the aim of hygiene surveillance and control.

Aim

To compare contamination of shared and non shared computer keyboards in a non-hospital, professional environment.

Materials and methods

Thirty keyboards in the University of Siena, Italy, were examined (February to March 2009). Fifteen were non-shared keyboards belonging to university administrative and research personnel and 15 were shared keyboards used by students.

Swabs of 'vowels' and 'enter' keys were carried out and cultured to investigate, assessing the number of colony forming units (CFU), the 36 and 22°C Total Microbial Load (TML) and the presence of *Staphylococcus*, *Enterococcus*, *Pseudomonas*, moulds and yeasts. The number of CFU obtained from shared and non-shared keyboards and keyboards belonging to people who usually ate lunch at the computer desk and people who did not, were compared by the Mann-Whitney test.

Results

Mean 36°C TML was 50.4 CFU/key (SD 83.2). At 22°C moulds were found on 22 keyboards with a mean of 5.7 CFU/key (SD 21.6). Mean yeasts CFUs were 44.8/key (SD 95.3). *Candida krusei* was found. 29 keyboards were contaminated by *Staphylococcus* (mean 19.7CFU/key). On students' keyboards *Enterococcus avium* was found. There were no differences ($P > 0.05$) between shared and non shared keyboards. 36°C TML and *Staphylococcus* CFUs on keyboards belonging to people who ate lunch at the computer desk were higher (respectively $P = 0.037$ and $P = 0.061$).

Conclusions

We found quite high contamination on computer keyboards, without differences between shared and non-shared ones. Eating seems to be a determinant of contamination because traces of food could be a good medium for microbial growth.

The financial crisis and public wealth: prospects for TB control in Europe

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Background

It has been suggested that the financial crisis will lead to further income inequalities. Meanwhile, income inequalities have been linked to differential health outcomes, including differential rates of communicable diseases such as tuberculosis (TB). There is thus an urgency to understand

how the financial crisis might impact rates of communicable diseases in Europe.

Methods

An ecologic study was conducted to measure TB prevalence rates against a public wealth index (PWI) that was developed, which measures both wealth (GDP per capita) and its distribution (income inequalities).

Results

A regression model of log-transformed PWI and TB prevalence yielded a strong inverse relationship between the PWI and TB rates (correlation coefficient of $R^2 = 0.69$). The estimator for the intercept parameter in the model (14.36, $P < 0.001$) and the estimated regression parameter for the logarithmical public wealth index (-1.39 , $P < 0.001$) were both statistically significant.

Conclusions

Assessing TB rates according to our public wealth index clearly demonstrates the importance of macro-social determinants on TB transmission. Countries with lower scores on the public wealth index would benefit from broadly addressing the issue of social determinants. Countries with higher scores on the public wealth index should focus action on groups most vulnerable, such as foreign-born populations. If the current financial crisis has long-term, structural impacts on macro-social contexts through widening income inequalities, our model suggests that TB rates have the potential to increase in several European countries, underscoring the importance of defending funding for current programs that address social determinants.

Can frequent clinical surveillance for latent tuberculosis infection in health care workers be a preventive strategy? An experience in a teaching hospital in Rome from February to April 2009

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Issue

Re-emerging active pulmonary tuberculosis (TB) and drug-resistant strains have increased health care workers' (HCWs) risk of acquiring TB infections which might not respond to usual therapy. Identification and treatment of latent TB infection (LTBI) is the cornerstone for active tuberculosis control.

Description of the problem

This study aims to:

1. Estimate LTBI prevalence and compliance to screening programme among HCWs operating in six high-risk clinical units of 'Gemelli' hospital in Rome;
2. Suggest an innovative approach based on a 3 months clinical surveillance for HCWs IFN-gamma release assay (IGRA) positive to early detect TB-specific symptoms in order to avoid chemoprophylaxis and its side effects. Even if IGRA is useful for targeting interventions, in Italy (low-incidence country), chemoprophylaxis (isoniazid 6–9 months) is routinely administered to high-risk people, both not vaccinated TST positive (size ≥ 10 mm) and vaccinated IGRA positive HCWs. From 23 February to 30 April, 307 HCWs were invited to health surveillance unit (HSU) to enter the study. They were asked to fill in a questionnaire collecting data about individual risk factors, health status, BCG vaccination, TB history and were tested by TST followed by IGRA when positive (IGRA positive assumed as LTBI). During 6 out of 10 weeks HCWs were investigated at the same time directly on their job place.

Results

Preliminary data show 116 (compliance 38%) of 307 subjects entering the study. Weekly average number of adhering

subjects doubled by going to units (14.8) if compared with HSU (6.7). Among 113 coming back for reading TST, 36 were positive and 30 of them underwent IGRA. IGRA positivity shows a LTBI prevalence of 6.9%. Statistical associations, outcomes, efficacy and cost-effectiveness on LTBI clinical surveillance will be evaluated in 2 years.

Lessons

LTBI prevalence among HCWs suggests that a close surveillance for IGRA positives is recommended. HCWs' screening compliance significantly increases when surveillance is offered directly on their job place.

Could Hepatitis C be considered only a sexual transmitted disease? A systematic review of Italian studies about Hepatitis C prevalence among households of infected patients (Italy, 2008)

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Background

Intrafamilial transmission of Hepatitis C (HCV) should be better evaluated in order to figure out the role of sexual transmission. A systematic review and a meta-analysis of Italian evidences on HCV prevalence among households of infected patients were thus carried out.

Methods

PubMed and Embase were searched, until October 2007, to identify studies reporting HCV prevalence among households of infected patients in Italy. Used keywords were: 'HCV', 'Hepatitis C', 'intrafamilial', 'family' and 'Italy'. The search was restricted to English papers or to works with at least an English abstract, and was refined checking references of relevant articles. Selected studies were reviewed by two researchers for the quality assessment and data extraction. StatsDirect software was used for the analysis.

Results

Twenty five studies were selected. Considering all the studies, the pooled HCV prevalence among households was 9% (95% CI 7.1–11.1%), greater than in the whole Italian population. The highest prevalence, equal to 14.7% (95% CI 10.7–19.2%), was found among sexual partners of infected patients. HCV prevalence in this group was higher than among non-sexual contacts independently by the geographical area but it was 9.9% (95% CI 3.6–18.8%) and 17.6% (95% CI 12.1–24%) respectively in northern and southern-central regions.

Conclusion

Households of HCV infected patients are at high risk for HCV, mostly if they have sexual intercourse with them. It is, in fact, supposable that sexual transmission has a central role in HCV intrafamilial transmission. Counselling to households of HCV-infected patients and, particularly, to sexual partners of them should be thus proved and tailored according also to geographical differences.

Social and behavioural factors associated with the HIV prevalence among injecting drug users in Latvia

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Background

Sharing of injecting paraphernalia still is one of the main routes of HIV transmission in Latvia. However during the last

years generalization of the infection is observed—from concentrated epidemic among injecting drug users (IDUs) to the general population via sexual contacts. Thus it's necessary to monitor factors related to the spread of HIV among IDUs. It helps to plan prevention activities more effectively and thereby to eliminate spread of infection among bridging populations.

Methods

Data of a cross-sectional study 'Prevalence of HIV and other infections and risk behaviour among IDUs and their main sex partners in Latvia, Lithuania, and Estonia' (held in 2007) were used. In the study by the first time in Latvia Respondent Driven Sampling was used and 407 respondents were recruited. The spread of factors among HIV+ comparing with the HIV- IDUs was identified. Unadjusted and adjusted odds ratio (ORu and ORa, respectively) were calculated. ORa was calculated using binary logistic regression.

Results

Factors associated with HIV prevalence among IDUs in Latvia are imprisonment ever in lifetime [imprisoned vs. non-imprisoned: ORu 1.70 (95% CI 1.0–2.8)], duration of IDU [≥ 3 vs. < 3 years: ORu 4.37 (95% CI 1.6–12.8)], main drug injected [heroin vs. amphetamine: ORu 1.83 (95% CI 1.0–3.2)], needle/syringe sharing with a known HIV infected person (sharing in lifetime vs. non-sharing: ORu = 2.38 (95% CI = 1.4–4.1)), HIV testing ever in lifetime [HIV tested vs. non-tested: ORu 1.79 (95% CI 1.0–3.3)] and visiting of Syringe Exchange Programme (SEP) ever in lifetime [SEP visitors vs. non-visitors: ORu 1.86 (95% CI 1.1–3.1)].

After adjustment (by gender, age, imprisonment, duration of IDU, main drug, needle sharing) association with HIV prevalence remain statistically significant for imprisonment [ORa 1.99 (95% CI 1.1–3.7)], needle sharing with HIV+ person [ORa 1.80 (95% CI 1.0–3.2)] and [adjusted by gender and age] participation in SEP (ORa 1.79 (95% CI 1.1–2.9)).

Conclusions

In Latvia factors associated with the HIV prevalence among IDUs are imprisonment, sharing of injecting paraphernalia with a known HIV+ person and participation in harm reduction programs.

MSM, marginalization and HIV/AIDS prevention

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One-fifth of the German population is considered as having a migration background. They are disproportionately affected by HIV-infection: One third of newly diagnosed cases are migrants. In this context issues of marginalization, sexual identity, attitudes, (risk) behaviour and capacity building relevant to men who have sex with men (MSM) need to be addressed.

There are various situations in which migrants have to deal with marginalization: They are disadvantaged not only in terms of their socio-economic status but also in accessing health care. Especially when it comes to HIV/AIDS migrants may be confronted with dynamics of internal and external marginalization. Different cultural perceptions of HIV/AIDS, combined with limited knowledge of the German health system and structural barriers in accessing HIV-testing and support often lead to late diagnosis and delayed access to care. The perception of HIV/AIDS as a phenomenon that especially affects MSM points to the topic of homosexuality as a key challenge for a migrant community. As information about homosexuality is widely based on prejudices and fear, reactions predominantly lead to processes of marginalization of MSM—or men perceived to be MSM. MSM of non-German origin find themselves in a precarious situation: by Germans they are perceived as ethnically different. Furthermore the German culture and the culture of origin may stigmatize their sexual

orientation. Multiple stigmatizations make them potential victims of processes of marginalization.

Approaches to improve the current situation include interpreters, intercultural capacitation of staff and materials in different languages. Since 1994, a sustainable system of education, community based research and quality assurance is organized by the Ethno-Medical Center in Hannover. Transcultural AIDS mediators are involved in prevention campaigns. Trainings and campaigns were established to overcome stigma and discrimination associated with HIV based on practical experience. This approach aims to identify and to work with needs like specific language and cultural requirements. Since then the concept was successfully transferred within Germany. It is currently being transferred to five European countries in the EU-funded project 'AIDS & Mobility Europe'.

Epidemiology of fever of unknown origin in a large university hospital in Rome: results of a cross-sectional study

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Background

Fever of unknown origin (FUO) is defined as an illness characterized by fever ($>38.3^{\circ}\text{C}$) of more than 3 weeks duration, with a failure to identify its origin. Scientific literature lacks data on the epidemiology of FUO in hospitalized individuals, while estimating the burden of FUO is a key step to realize guideline for the correct management of these patients. We conducted a cross-sectional study to describe the incidence rate of FUO in the 'A. Gemelli' large teaching hospital, Rome.

Methods

We considered all admission diagnoses in adult patients recorded as FUO between January 1984 and December 2007. We used ICD9-CM codes to identify discharging diagnosis of FUO. We studied variables of age, length of stay, number of transfers, number of admissions for the same patient, departments of admission and diagnosis of discharge. Annual incident rate (IR) of FUO was calculated. Incidence rates time trends were analysed. Time changes are expressed as Expected Annual Percent Change (EAPC). Chi-square and Kruskal-Wallis tests were used. Statistical significant level was set at $P \leq 0.05$.

Results

In the overall period, 3156 cases of FUO were admitted, with an IR of 3.09 (95% CI 2.98–3.20). Among them, 1737 (55.07%) were patients of 21–64 years old, and 829 (26.28%) > 65 years. We did not observe a significant trend of admissions from 1984 to 1995, while a significant increase (EAPC: 307.80, $P < 0.002$) was observed until 1998. Since 1999 we observed a slow decrease in IR (EAPC: -8.57 , $P < 0.001$). There was a significant difference for length of hospitalization between subjects aged 21–64 and > 65 years, with 12.97 vs. 17.21 days ($P < 0.001$). Elderly had the greatest number of transfers ($P = 0.02$). Patients with FUO were admitted most frequently in Department of Infectious Diseases (41.22%), followed by Internal Medicine (28.77%), Paediatrics (13.09%), Geriatrics (3.64%), Rheumatology (3.11%), and Surgery (2.44%). The 21.69% of FUO were discharged with the same diagnosis.

Conclusions

During 23 years of observation, a large amount of patients were admitted for FUO for a period longer than 12 days, and often discharged without a definitive diagnosis. In our opinion, it is important to implement standardized procedures and pathway of diagnoses/care for these patients.

The vacuum assisted closure can reduce the length of stay for patients with infected wounds?

A meta-analysis of current evidence

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Background

Acute and chronic wounds infection carry high mortality and represent a remarkable risk factor for prolonged hospitalization. From the patient's perspective, wound therapy is an uncomfortable, painful and long-term treatment. Modern wound treatment systems should represent a method for shortening wound healing and hospital stay. The vacuum assisted closure (VAC) therapy is a system that promotes healing in wounds through the application of negative pressure by controlled suction to the wound surface. The application of controlled levels of negative pressure has been shown to accelerate healing in many different types of wounds. The aim of this study is to evaluate the impact of VAC on length of stay, compared with that of conventional therapy.

Methods

A systematic search of literature was carried out querying electronic databases (Pubmed, Embase, Dare, SumSearch, Scirus) to identify studies comparing VAC and conventional therapy (last consultation January 2009). A random effects meta-analysis was performed estimating mean difference of length of stay within 95% confidence interval (CI).

Results

Nine articles were selected for a total of 472 patients. The mean difference of length of stay was -8.34 days (95% CI -14.99, -1.70) in favour of VAC therapy. Sensitivity analysis confirmed the validity of our estimate.

Conclusion

VAC system could be a valid alternative to conventional therapy, because it can reduce the duration of wound treatment and hospital stay. This synthetic results are useful for policy maker, manager and clinicians in decision making process related to the implementation of modern wound treatment system in an hospital setting.

Candida infections surveillance in neonatal intensive care unit by early mannan detection in bronchoalveolar lavage fluid reduces the incidence of invasive infections

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Invasive candidiasis (IC) has become an increasingly important problem in the neonatal intensive care unit (NICU), resulting in significant mortality of pre-term infants. Given the diagnosis of this life-threatening opportunistic infection remains difficult because of unspecific clinical presentation and low sensitivity of conventional blood culture methods, non-culture tests have been developed, including mannan antigen detection by ELISA. Because early diagnosis of IC is essential for a well-timed and appropriate antifungal therapy, our study aimed to investigate whether a screening method for the early detection of Candida mannan in bronchoalveolar fluid (BAL) reduces infection rate and mortality among very low birth weight infants (VLBW; birth weight <1500 g) in a NICU of a teaching hospital.

Methods

We performed an observational study of VLBW infants where a retrospective cohort of babies under surveillance

with traditional culture methods was compared with a prospective group defined at the start of routine use of Candida mannan detection in BAL fluid. In both groups the antifungal treatment with liposomal amphotericin B was given based on positive (surveillance culture or mannan antigen) results.

Results

IC was observed for 12 (32.4%) of 37 infants in the retrospective group, and for 0 (0%) of 29 patients in the prospective one ($P=0.001$). Interestingly, among the fourteen historical infants that resulted positive for surveillance culture, 12 (85.7%) developed IC ($P<0.0001$). No statistically significant difference in mortality rates (13/37 infants in the retrospective group vs. 4/29 infants in the BAL mannan group; $P=0.09$) was detected, even if only two deaths (12.5%) were reported among the group of 16 antigen positive infants.

Conclusions

This study suggests that Candida mannan detection in BAL fluid might be used as a screening method in NICU for earlier identification and more accurate targeting of preterm infants at high risk of IC, allowing to develop preventive measures and therapeutic strategies by administration of preemptive antifungal therapy.

Facts about nosocomial infections in obstetrics-gynaecology unit from Mures/Romania

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Background

The aim of this study was to evaluate comparing data regarding the hygienic conditions of the obstetrics-gynecology unit at the Mures County Hospital and the nosocomial infections occurring here during 2005–07.

Methods

It has been investigated hygienic conditions in the hospital by evaluating the microorganisms present in the air, the sterility of materials, bacterial level on staff hands, evidence of sanitation actions, sterile water condition, disinfectants and pharmaceutical solutions sterility. We followed also nosocomial infections data recorded as evidence for this department. Data were statistical processed using Student's *t*-test and EpiInfo programme.

Results

It was a decrease of the frequency in positive samples for airborne microorganisms, also for sanitation and sterility level in this unit, during this period of time, with significant difference ($P=0.001$) mainly between 2005 and 2006, which shows an improvement of hygienic conditions. From the microbiological evidence on staff hands, 23.6% were positive in the first year, 27.5% in 2006 and 33% in 2007, the differences by years being statistically insignificant. On other hand, data on the incidence of nosocomial infections, showed in 2005 that 9.8% positive tests and in the following year 8.4% ($P=0.01$). Germs highlighted in serum cultures were various, however the staphylococci negative for coagulation and Klebsiella pneumoniae were on the firstplaces by frequency. There was a greater number of nosocomial infections in 2006 compared with 2005 followed by a decrease in 2007, running in parallel with decreasing of non-hygienic hospital evidences.

Conclusions

The frequency of inadequate hygienic samples declined during the study, in parallel, with the nosocomial infections. The most frequent germs involved were staphylococci and Klebsiella pneumoniae. Sanitary conditions are obviously related to the number of cases of nosocomial infection recorded in the obstetrics-gynaecology unit and sustains more effective surveillance measures needed for prevention.

Immunogenicity and adverse events of avian influenza A (H5N1) vaccine in healthy adults: a multiple-treatments meta-analysis

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Background

Influenza H5N1 is considered a likely causative agent for the next influenza pandemic in humans. Several types of H5N1 vaccines have been tested including different dosages and adjuvants. Meta-analysis is needed to establish what formulations would be the best choice in case of a pandemic.

Methods

We searched MEDLINE, EMBASE, the Cochrane Library, and other online databases to February 2009, in any language for randomized trials comparing different H5N1 vaccines among themselves and/or placebo on healthy adults. Primary outcomes were seroconversion and/or seroresponse according to hemagglutination-inhibition (HI) and microneutralization (MN); secondary outcomes were adverse events. Given the large number of compared formulations, multiple-treatments meta-analysis (MTM) was used for the primary outcomes. Direct comparison meta-analyses were also performed.

Results

We included 13 trials evaluating a total of 58 arms. Immunogenicity for non-adjuvanted and aluminum-adjuvanted formulations increased with increasing dose, with no clear ceiling effect. With non-aluminum adjuvant, sufficiently high immunogenicity was achieved even at $\leq 6 \mu\text{g}$, and higher doses did not provide major improvements. An absolute response rate exceeding 70% could be achieved only in formulations with non-aluminum adjuvants. No serious vaccine-related adverse events were reported in any of the 11 trials providing harms data and including a total of 6524 individuals. The addition of non-aluminum adjuvants substantially increased the risk of mild or moderate adverse events, but there was no dose-response for the incidence of adverse events.

Conclusions

Currently H5N1 influenza vaccines with non-aluminum adjuvants represent the best available option in case of a pandemic. Large-scale studies should verify the high immunogenicity of non-aluminum-adjuvanted vaccines using very low doses of antigen.

Evaluation of potential public health consequences of delaying universal rotavirus vaccination programme implementation in European countries

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Background

In 2006, two rotavirus (RV) vaccines were licensed for use among European (EU) infants. Up to April 2009, universal RV vaccination programme has been recommended, funded and implemented in only three EU countries (Austria, Belgium and Luxembourg) although literature data conclude that such programme would have significant impact in reducing RV burden. Given this context, the aim of this study was to estimate the potential public health consequences of delaying universal RV vaccination programme implementation in terms of non-avoided burden in selected EU countries.

Methods

A review of the literature was performed to identify all evaluations performed by EU independent entities assessing the potential impact of universal RV vaccination in reducing RV burden in their countries. Countries for which an evaluation was available but where no RV vaccination programme was implemented yet were then selected for review. The cumulative non-avoided RV burden (as non-avoided hospitalizations and direct medical costs) was estimated for a 3-year period following RV vaccines license.

Results

In April 2009, evaluations of the potential impact of universal RV vaccination programme were available for five EU countries and four of them have not implemented the programme yet: Finland, Netherlands, France and the UK. The cumulative non-avoided number of RV-related hospitalizations over a 3-year period following RV vaccines license in children aged under 3 or 5 years was estimated to be over 6000 in Finland and Netherlands, and over 30 000 in France and the UK; the cumulative non-avoided direct medical costs were €11 million (Finland), €14 million (Netherlands), €45 million (France) and £29 million (€42 million; UK).

Conclusion

Delaying the implementation of universal RV vaccination programme in EU countries has substantial public health consequences and should be taken into account by decision makers.

Poster Session 10: Child and adolescent public health

Trends in Mortality among children 10–14 years old in the European Union, North America and Australia (1995–2003)

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Background

Although children mortality has decreased in developed countries, the study of mortality is important for detecting of emerging problems in childhood is important to address emerging problems.

Methods

Mortality data were obtained from WHO mortality database from 1995 to 2003 for all the Countries of the European Union, as well as Norway, Switzerland, USA, Australia and New Zealand. All causes were translated into ICD10 codes. Country populations were obtained from WHO database. Pooled mortality rates were computed. As mortality in this age group is decreasing, we computed a ranking of the leading causes of death at the beginning of the period and at the end of it. A meta-analysis was computed with the confidence-Profile method that assumes a model empirical Bayesian random effects. Accommodating heterogeneity assuming that real rates differ between countries. Fast*Pro software was used to perform the meta-analysis

Results

The comparative study on the evolution of the ranking of mortality rates shows that suicide by hanging has gone from being the eighth leading cause of mortality in 1995 to fourth in 2003 among children 10–14 years. Suicide by hanging (ICD10 Codes X701 to X710). was the more important cause of suicide in 2003. The country with a higher suicide by hanging rate was Luxembourg, followed by Canada, Norway and the United States. by the other hand Germany and Spain were the countries with a lower rate. After the meta-analysis the estimation of the mortality rates of suicide by hanging in children 10–14 years old was 7.68 cases per million of inhabitants (CI 95% 6.57–8.89).

Conclusions

More attention should be given to suicide prevention and mental problems in children. Primary Health Care physicians, teachers and families should receive training to identify earlier those children in risk of committing suicide.

Children's disability epidemiology in Arkhangelsk region, 1998–2007

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Background

At the present time the problem of children's health research assumes great importance. Among of the leading children's health indicators are disability characteristics. They reflect formation of manpower resources of the state and enable to evaluate factors, which define this.

Methods

Official statistical data of Informational Analytical Center of Arkhangelsk regional health care department was used for analysis.

Results

In Arkhangelsk region, like it is overall in Russia, there is an increasing of disabled children population. Last decade (1998–2007) level of children's disability prevalence increased for 9.6%, and t present time prevalence is 193.7 per 10 000 children's population (aged 0–17)/In Arkhangelsk region this rate increased more significantly (for 13.0%), prevalence was 172.2 in 1998 and 194.5 per 10 000 in 2007 correspondingly. This rate in 2007 was practically the same in comparison with average rate in Russian Federation 193.7 per 10 000). Difference is statistically significant ($P < 0.001$).

There is a great difference of disability coefficients among males and females. The gap between corresponding characteristics among males and females in dynamics has a tendency to reduction. This value decreased twice for the research period: from 31.7 to 17.9 cases of disability at the expense of more intensive increment rate of this value among females. The results demonstrate that among leading causes of children's disability in Arkhangelsk region in 2007 were three classes of diseases: congenital anomalies (27.4%), diseases of nervous system and sense organs diseases (26.6%) and psychiatric disorders (19.6%).

Conclusion

Our data suggests that there is qualitative changes of children's health regarding regional peculiarities. This indicates necessity of development of the special disability prevention programmes.

Socio-economic differences in the development of self-rated health amongst Danish adolescents—results from a study in the Western Denmark—the VestLiv study

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Background

While the existence of social inequality in health in childhood as well as amongst adults is well established, research of mechanisms underlying this inequality is still sparse. This study reports on the development of self-rated health, perceived stress and depressive symptoms from age 15 to 18 years in a cohort study of Danish adolescents. The aim was to study predictors for health change among children with different social background.

Methods

Information from a birth cohort study of all adolescents born in 1989 ($n = 3058$) living in Ringkøbing County, Denmark was collected from questionnaires in 2004 and 2007. 2140 participants answered in 2007 (response rate 61%). Information on the social background of the participants (e.g. household income, parents' highest education etc) was derived from a national register. For the analysis three variables indicating the change in the three health indicators was computed by subtracting the 2007 levels of the variables from the levels experienced in 2004.

Results

Self-rated health was slightly worsened [-0.235 ; 95% confidence interval (CI) -0.275 to -0.195] and the number of depressive symptoms increased (-1.17 ; 95% CI -1.27 to -1.04) while perceived stress on average remained stable. Children of parents' with the longest education had significantly worse development of all three health indicators compared with children of parents' with primary school education. Participants who reduced their levels of physical exercise had a significant decrease in self-rated health from age 15 to 18 years.

Conclusions

Self-rated health, the number of depressive symptoms and levels of perceived stress changed to the worse among Danish adolescents from age 15 to 18 years. Changes in physical exercise were found to contribute to the deterioration of self-rated health. This result stresses the importance of preventing adolescents from reducing their level of physical exercise.

Municipal policies and plans of action aiming to promote physical activity and healthy eating habits among school children in Sweden: a cross-sectional study, 2005–06

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Background

Promoting physical activity and healthy eating habits by structural measures reaching most children in the society is presumably the most sustainable way to prevent development of overweight and obesity in childhood. The rationales of

this study were to analyse if policies and plans of action at the central level in municipalities increased number of measures aiming to promote physical activity and healthy eating habits among school children, and to analyse if demographic and socio-economic characteristics were associated with the level of such measures.

Methods

Questionnaires were used to collect data from 25 municipalities and 18 town districts in Stockholm County, Sweden. Local policy documents and plans of action were gathered. Information regarding municipal demographic and socio-economic characteristics was collected from national statistics. Spearman rank correlation was used to analyse the data.

Results

Policy documents and plans of action did not seem to influence number of measures aiming to promote physical activity and healthy eating habits among school children. Municipal demographic and socio-economic characteristics were however shown to influence number of measures. High total population size and high proportion of adults with more than 12 years of education indicated higher level of health promoting measures, while high annual population growth indicated a lower number of measures.

Conclusions

Policy documents and plans of action aiming to promote physical activity and healthy eating habits among school children did not seem to be associated with ongoing health promoting measures at the local level. Demographic and socio-economic characteristics, however, seemed to be associated with such measures. High quality local policies and plans of action need to be developed, implemented and evaluated to assess if the low impact revealed in the present study is the consequence of poor quality documents. Local implementation and evaluation efforts must be strengthened.

Health care through school: a pilot project in Nepal

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Background

Nepal is lagging behind in developmental and health indicators. It is one of the countries in the world which bears high infant and under five children morbidity and mortality. One of the major constraints of our health system is that the envisioned health policy has not been effectively materialized in the practical reality. Taking health care to the community through school students can be cost effective and efficient model in the rural communities. In this regard, school health care initiative is a noble endeavour to enrich health status of the school going students and their families. With this realization, a pilot project was initiated in Nepal in seven rural villages of Kavre district to devise a sustained model of health care system

Methods/results

The objective of the present project is to offer preventive, curative and promotive health care to school going children and devise a sustained health care system to ensure their health and wellbeing. Data base was prepared. The school health teacher and community health workers working in the project area were trained to offer basic preventive and promotive care. Health awareness campaigns are periodically organized and is expected that students will conceive the messages and disseminate to their family and surroundings. The school health teacher is responsible to monitor health of the school children regularly and if any student is found to be having problem he/she is send to near by health post and if further treatment is required then referred to Dhulikhel Hospital, a university teaching hospital located in the district.

The capacity building of the local health institutions has been carried out by offer training to local health workers and offering necessary equipment and supplies. In order to assure the cost of the health care every school has created an emergency fund collected from the students. The fund is collected from all the students during their admission and is utilized if any students need emergency care.

Conclusions

The present project has shown promising results in terms of increasing the awareness on health problems, ensuring the total health care of the school children and sustained model of care in deprived communities.

Behaviour, attitudes to health and awareness of health risks among school-aged children in Serbia

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Background

Behaviours that comprise young people's lifestyles may directly or indirectly impose threat to their health in the short or long term.

Methods

The study is a part of the 2006 National Health Survey for the population of Serbia carried out by the Ministry of Health of the Republic of Serbia when 2721 school aged children (from 7 to 19 years) were examined.

Results

In 2006 in Serbia 87.3% of children and adolescents aged 7–19 years had breakfast every day, 74.4% had three meals a day every day, while 51.6% ate fresh fruits every day. The percentage of children and adolescents who never thought of their health when choosing what to eat was 36.7%. Children and adolescents in Serbia used their free time mostly to watch TV, CDs or video cassettes (73.3%) or listen to music (61.9%). Over 70% of children and adolescents used car seat belts when driving or sitting in the front seat. Of those who used rollerblades or skateboards, 86.5%, did not wear protective helmets on a regular basis. The same applies to 96.5% of the bicycle riders and 66.3% of motor bikers. The prevalence of smoking among the young in Serbia aged 15–19 years was 15.5% and 70.8% of the young were exposed to tobacco smoke at home. At the same time, 33.6% of the young used alcohol, and 35.0% were aware of the effects of using psychoactive substances (they knew that cannabis, ecstasy, cocaine, LSD, heroin and crack were always harmful). In Serbia 6.9% of the young aged 15–19 years tried psychoactive substances.

Conclusions

Research into children's health and health behaviour and the factors that influence them is essential for the development of effective health education and health promotion policy, programmes and practice targeted at young people.

Welfare regimes and subjective health in adolescence: findings from the 'Health Behaviour in School-aged Children' survey

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Background

Previous studies have shown that welfare regimes (WFR) are important determinants of health and health inequalities among adults as they mediate the extent and impact of socio-economic position (SEP) on health. So far, comparative research has rarely focused on adolescents. This study is among the first to examine whether different types of WFR are associated with differences in relative and absolute

socio-economic inequalities in subjective health among adolescents in 35 countries.

Methods

Data were collected from the school based 'Health Behaviour in School-aged Children'-study in 2006, which includes 11- to 15-year old students from 35 European and North American countries ($N=169,436$), classified into five WFR (Scandinavian, Anglo-Saxon, Bismarckian, Southern, Eastern). Health indicators were self-rated health (SRH) and psychosomatic complaints. For each WFR prevalence and rate differences between the highest and lowest group of family affluence and parental occupation were calculated separately. Relative inequalities between WFR, were analysed using logistic regression models (Scandinavian regime as reference) before and after adjustment for individual SEP. All analyses were adjusted for age.

Results

Welfare regimes were associated with the overall level of health (prevalence rates), absolute (rate differences) and relative (odds ratios) socio-economic inequalities in health between WFR. Using the Scandinavian WFR as reference, the Anglo-Saxon and Eastern regimes showed higher odds ratios for negative SRH, while the Southern and Bismarckian WFR had lower odds ratios for both genders. Regarding multiple complaints, a different picture was observed. Compared with the Scandinavian WFR, all regimes showed higher odds ratios on a very similar level (ORs 1.24–1.55). The only exception was the Bismarckian WFR which showed no significant effect for girls and boys. These patterns were largely unchanged after adjusting for student's SEP for both health indicators.

Conclusion

This study shows that socio-economic differences in health in adolescence vary between WFR. Reducing health inequalities should continue to be an important public health strategy with emphasis on the young population in all WFR and particularly in the Anglo-Saxon.

Injuries caused by bicycle in the school age

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Background

Injuries after falling from the bicycle are quite often and in some cases serious. Our purpose is to study these injuries along with the perception of the parents for the use of the bicycle.

Methods

We studied 714 children (and relevant questionnaires), 459 boys (64.3%) and 255 girls (35.7%), 6–14 years old (average age 7.5 years old) who turned up at the Emergency Department of our hospital from 1 January 2006 until 31 October 2008. Age, sex, type of injury as well as place, time of the injury, and residence area were recorded.

Results

Eighty-two children (11.5%) (59 boys—72%) were injuries after falling from the bicycle. The types of the injuries, in descending frequency were: (i) simple injuries of the upper and lower limbs (29 cases—35.4%), (ii) fractures of the upper limbs (22 cases—26.8%), (iii) rupturing wounds in various areas—mainly lower limbs (16 cases—19.5%), (iv) fractures of the lower limbs (11 cases—13.4%) and (v) cranial cerebral injuries (four cases—4.9%). None of the children was wearing a helmet. Injuries were taken place, especially during the evening hours (61.5%) and mainly in the summer period (43.4%). The children were living in: urban areas 46%, semi-urban 28.5% and rural 25.5%. Regarding the parents: (i) All of them believe that children regardless of their sex, deserve to have a bicycle (100%). (ii) 6.5% believe that the use of helmet

is necessary but only 2.1% convince their children to wear it (there is a very important statistical connection with the educational level) 3) 45.3% allow their children to ride the bicycle in the public street while they are neuro-developmental immature.

Conclusion

Injuries caused by the bicycle are quite often in boys, especially those living in urban areas. The threat of a cranial cerebral injury is always substantial, therefore the helmet's use enforcement, even by law is considered as imperative.

Schoolchildren's views of health counselling in public oral health care

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Despite a decreasing trend, schoolchildren's dental diseases have not been eradicated. The behaviourally oriented nature of dental diseases emphasizes the need for behavioural change and change counselling whereby schoolchildren would be able to assume the responsibility for promoting their oral health. Evidence from health care practice suggests that the involvement of young people is both limited and inconsistent.

The aim of this research was to investigate Finnish schoolchildren's views, experiences and desires with respect to oral health counselling in public oral health care. The study employed a qualitative approach using theme interviews and content analysis. The 31 participants ranged from 12 to 13 years of age and included both genders. The data for this study were collected as part of a larger research project on schoolchildren—dental hygienist communication in public oral health care in Finland.

While the counselling atmosphere was described as matter-of-fact and encouraging, waiting for one's turn was experienced as boring and unnerving. Creating confidence by discussing the contents and progress of counselling was perceived as an important strategy but it did not always carry out. The schoolchildren's views focused on two counselling styles: guiding and directing. Counselling strategies involving discussion about change processes and goal setting were related to the guiding style. In the directing style, counselling dominantly consisted of professional-centred information and advice giving, especially during clinical dental care. In addition, the information offered was not always considered to be tailored to individual knowledge needs.

The communication aspects of oral health counselling need to be addressed. Steps should be taken to create communication situations that allow schoolchildren to have a voice in counselling. In future, schoolchildren's views should be taken into account in public oral health care services.

Effect of benzoates from soft drinks on hyperactivity among Osijek preschool children

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Background

Attention deficit hyperactivity disorder (ADHD) is one of the most common childhood-onset psychiatric disorders. The effects of food, preservatives and artificial colors as a factor producing ADHD are a controversial subject. The aim of this study was to explore the possible connection between

benzoates from soft drinks and hyperactivity among Osijek preschool children.

Methods

A special questionnaire was administered to parents of 674 preschool children from kindergartens in Osijek during April and May 2007. The questionnaire contained questions on the preschool children age, sex, weight, average daily intake of soft drinks, type of soft drink consumed, food allergy and 10 parents Conner's index for ADHD diagnose. The concentration of benzoates in 50 commercially available soft drinks was determined by the method of high-performance liquid chromatography (HPLC) with UV detector.

Results

Among all preschool children there were only 4.6% (31/674) of them who do not drink soft drinks. The mean concentration of benzoates in all samples was 97.72 ± 26.66 mg/l. The questionnaire revealed that 95.4% (643/674) of study subjects consuming soft drinks were taking a mean of 0.61 of soft drink per day, containing 58.63 mg benzoates. Among those who do drink soft drinks there were 8.6% (58/643) of them positive for ADHD and none in group who do not.

Conclusions

ADHD is more common in the group of children who consume soft drinks and in that way intake larger amount of benzoates. It is not clear do these benzoates produce ADHD or just further facilitate ADHD that already exist. Further investigations are needed.

Breakfast consumption and aggressive behaviour among school-aged children

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Background

Regular breakfast consumption can have a multitude of positive health benefits. There is increasing evidence that the missing of breakfast has negative consequences on mental performance late in the morning.

Aim

To investigate the association between breakfast consumption and aggression among school-aged children.

Methods

Study data originated from a cross-sectional Slovak national survey performed in 2006 [$n=2617$, 48.7% males, mean age 14.5 (SD 0.7)].

Association of breakfast skipping was assessed against four domains of aggression (Physical Aggression, Verbal Aggression, Anger and Hostility) were assessed using binary logistic regression.

Results

Breakfast skipping showed higher risks of Physical Aggression [OR 1.3 (95% CI 1.2–1.4)], Verbal Aggression [OR 1.2 (95% CI 1.1–1.3)] and Anger [OR 1.2 (95% CI 1.1–1.3)]; after controlling for age and gender.

Conclusions

Breakfast skipping showed an association with increased relative risk of aggressive behaviour. It seems that behaviour and mental performance can be improved by dietary habits although longitudinal studies are needed to confirm a causal relationship. Therefore, correct adjustments to diet could not only improve health but also enhance positive social behaviour.

Knowledge, attitudes and behaviours of school children about physical activity, long stay in front of computer and health

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Background

Research shows that physical inactivity can cause premature death, chronic disease and disability. For children, regular physical activity is essential for healthy growth and development. Regular physical activity in childhood develops cardiovascular fitness, strength, flexibility and bone density. Physical activity helps reduce a number of risk factors for diseases such as coronary heart disease by setting positive habits early on in childhood and adolescence. The main objective of this study is to analyse the knowledge, attitudes and behaviours about physical activity and long stay in front of computer on health, among children of school-age.

Methods

The research has been done through a questionnaire among 505 pupils aged 12–15 years of primary schools in the Prishtina region, Republic of Kosova.

Results

More than 55% of the children know that physical activity can impact on health, 38% of them answered maybe and 5.1% answered that physical activity can't impact on health. Primary school children do not consider that long hours of usage of computers and TV has any negative effects on their health, 19.2% of surveyed children use computers for more than 4h, by gender higher amongst the boys of 15 year of age 39%, compared with 16.9% amongst the girls of the same age group by significant difference ($P < 0.01$).

Conclusions

A high number of children know that physical activity has an impact on health, but they do not consider that long stay and use of the computer has a negative effect on their health. The new subjects of health education and health promotion must be included in all stages of school curriculum's, starting from preschool carrying through all levels of school education.

BMI in school age students in present-day megapolis

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Background

Problem of paediatric overweight and obesity is one of the most challenging all over the world in the past several decades. A lot of serious negative consequences have been proved to accompany this condition, for example cardiovascular diseases, type 2 diabetes, disorders of reproductive system, different types of cancers etc. Objective of the research was to investigate anthropometric features of school-age children and adolescents in one of Moscow schools and find out if there any age-linked patterns in investigated cohort.

Methods

Weight and height data from student's school charts were used and then body mass index (BMI) was calculated. To assess findings World Health Organization (WHO) BMI-for-age percentile tables were used. Student was classified as overweight if his/her BMI was equal or more then 75th percentile and less then 95th percentile accordingly to sex and age group; obesity was detected if student's BMI was equal or more then 95th percentile. *T*-test and Mann-Whitney *U*-test were used in statistical calculations.

Results

Data from 489 students were obtained at the age from 5 to 17 years old, altogether 1136 separate measurements of weight and height. As a result of statistical investigation BMI rise

(relatively median percentile respective for each age group) was recorded at the age of 9 and 10 years among girls and at the age from 10 to 13 years among boys. The main rise of relative BMI was observed at the age of 12 among boys [among them almost 40% (39.2%) were obese and 23.5% had excessive weight]. Comparatively, at the same age of 12 among girls almost 7% was obese and around 14%—overweight. Among girls at the age of 9 overweight was detected in 30.6% of cases and obesity—in 16.7%. At the age of 10 25% of investigated girls were obese and 15% of them were overweight.

Conclusions

Considering findings of this investigation, it is important to screen girls in prepubertal period (9–10 years old) and boys of both prepubertal and pubertal age group (10–13 years old) in order to diagnose excessive weight gain. Further investigations is also needed to specify presented findings and risk factors of overweight and obesity in link with different age periods and sex.

An study of causal relationship between malnutrition determinants and anthropometry status in children (Tumpat, Kelantan, Malaysia)

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Background

Many studies have shown that poor growth in children is associated with malnutrition. The underlying contributing factors are diverse, multi-sectoral and interrelated, ranging from biological, social, cultural and economical. As it is one of the serious health issue in the world, with the highest levels of undernutrition rates found in South Asia, it is important for policymakers to understand the underlying determinants, in order to design a more concise public health intervention programme. The purpose of this cross-sectional study was to examine the 'causal' relationships among biological, behavioural, environmental factors and malnutrition in children aged 5 years and below.

Methods

The instrument used in this study was developed based on a previously described conceptual framework of malnutrition in children and tested for its psychometric component, using both qualitative and quantitative methods. Beside the use of questionnaire, anthropometric and dietary data were collected from 295 children randomly selected from clinics in one rural region of Malaysia. Tumpat, Kelantan. The proposed model was tested and modified using structural equation modelling (AMOS programme).

Results

The modified model adequately fitted with the data (α^2 statistic and six other indices of goodness of fit). The results demonstrate that environmental construct with its factors (total household income $\beta=0.68$, $P<0.01$; total expenditure $\beta=0.67$, $P<0.01$; number of room in house $\beta=0.46$, $P<0.01$; socio-economic status $\beta=0.71$, $P<0.01$) had a significant effect on malnutrition. None of the biological and behavioural constructs showed any significant effect.

Conclusion

These findings provide useful insights into the importance of focusing on environmental factors as the main target in designing intervention programme. It also has implication on the use of multiple techniques in anthropometry for screening the nutritional status of children. Future studies should focus on the issues of the ability of the households to meet their basic needs, inequality in the population level, and effectiveness of intervention done at the micro and macro level.

Confronting childhood obesity: a comparison of public opinion in the European Union

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Background

The purpose of this paper is to examine differences among European Union (EU) countries in terms of public support for policy approaches to childhood obesity. A variety of policy approaches have been proposed to address the problem, such as health promotion campaigns, restricting television commercials aimed at children, and higher taxes on unhealthy food. This is a complex policy problem because proposals cut across EU, national, regional and local jurisdictions within EU member states. The primary question for the study asks whether EU countries differ in support for policy measures dealing with childhood obesity?

Methods

The data for this study were obtained from the 2005 Eurobarometer that includes 25 EU member states plus four acceding and candidate countries. The data set contains 28 694 cases ranging between 500 and 1557 participants per country. Differences in support for policy options between EU countries are tested using univariate statistics and logistic regression.

Results

More information for parents was the leading choice of approximately 40% of the EU. More education about healthy eating was preferred by 20% and restricting advertising and promotion of junk foods aimed at children was supported by 13%. The other policy question focused on measures to reduce the prevalence of childhood obesity. More physical activity in schools had the greatest support (37%) and ranged between 12.4 and 69.7%. Support was evenly distributed among the other policy options.

Conclusions

This study reinforces policy efforts to communicate with parents and provide physical activity and instruction in school settings. Despite differences in the prevalence of the obesity epidemic, different policies that have been implemented in Europe, a substantial amount of agreement exists in public opinion in terms of a general framework to address obesity.

Transfer methods of children in the car

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Background

Car accident injuries globally comprise the number one cause of death for children and teenagers. The most important prevention way is the use of child car seats which along with the seat belt can reduce the percentage of deaths by 70% and the injuries by 67%. The purpose of this study is to transcript the car transfer conditions for children aged up to 12 years old.

Methods

Following a discussion, 996 questionnaires were fulfilled by parents at the kindergartens and at the Emergency Rooms of the General Prefectorial Hospital of Amfissa.

Results

First group (infants weighted up to 9 kg and aged up to 12 months): only 14% were placed in the child car seat (systematically only 30% of them). The usual transfer method was in a port-be be (38%) or at the back seat (29%). Second group (9–20 kg and 1–4 years old): the child car seat was

always used by 22% of the parents, occasionally by 58% and never by 20%. The main transfer method was again at the back seat (62%). Third group (15–36 kg and 4–12 years old): the child car seat along with the seat belt were always used by 8% of them, occasionally 22% and never 70%. The main transfer method was the use of the seat belt at the back seat. Children more than 3 years old, stand up in the car at 7 and 17% hold toys and dangerous items. 58% can easily open the doors of the car. Age of the parents was between 25 and 45 years old. 72% lived in residential-semi residential areas and 28% in villages. Fifty-eight percent have received secondary education, 28% tertiary education, 14% primary education.

Conclusion

The percentage use of the special car seats or seat belts is very low. Therefore, the appropriate information to the parents by the paediatrician is necessary.

Rates of paediatric and adolescent injuries by year of age. A preliminary analysis based on 2007 hospital discharges in Catalonia, Spain

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Background

Rates of child and adolescent hospitalization due to unintentional injuries are subject to important age variations. Identifying the main mechanisms causing injuries at different ages may help to implement appropriate and effective preventive interventions.

No recent estimates of the rates of paediatric and adolescent injuries have been published in Spain or other Southern European countries.

Methods

Hospital discharges among 0–19 year olds were reported in 2007 in Catalonia (Spain) with at least an ICD-9 external cause of injury or an injury diagnostic code were selected. To avoid some of the successive admissions due to the same episodes, only those referred by the emergency department were included in the analysis. Hospitalization rates were calculated for different mechanisms in all years of age from 0 to 19 years.

Results

5583 admissions (409 episodes by 100000 residents) were identified. Falls (2398 episodes, 176 × 100000) and road crashes (1235 episodes, 90 × 100000) were the main mechanisms involved. Injuries due to falls were higher among infants <1 and teenagers, while road crash injuries increased dramatically after the age of 14 years.

Conclusions

Falls, road crashes and other mechanisms are involved in paediatric and adolescent injuries requiring hospitalization at rates that evolve with age. Road crash injuries are most frequent among adolescents aged 14 and older, a fact that may be related to Spanish regulations that allow driving mopeds at 14, and motorcycles at 16. Differential injury rates found in this study should be taken into account in the design and implementation of health and safety promotion interventions addressed to children and adolescent. Hospital discharges offer valuable epidemiological information. The frequent use of codes indicating non specific injury diagnoses and mechanisms is a limitation that deserves consideration.

The social determinants of adolescents' medically attended injuries

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Background

Injuries are a leading cause of acute health problems among adolescents in Europe and may also serve as an indicator of multiple risk-taking behaviour associated with health consequences. The aim of this study was to explore the relationship between adolescents' medically attended injuries (MAI) in the past year and a wide range of social determinants, and the potential interactions between these determinants.

Methods

A cross-sectional survey was performed among adolescents (N = 1052, 48% females, mean age = 14.7 years) in elementary schools in Slovakia. A classification tree model was used to analyse the data.

Results

The classification tree showed that 22% of the total sample experienced MAI, 14%, among girls and 29% among boys. Among girls, the prevalence differed between those younger than their classmates (MAI = 39%), and the rest (MAI = 13%). Furthermore, in the older group of girls, participation in group fights made a difference (MAI of fights/no fights = 31%/11%). Boys reporting emotional symptoms ran higher risks of MAI (MAI = 36%) than those not reporting emotional symptoms (MAI = 16%). Physical aggression, playing sports and social support (significant adult, mother) further contributed to the occurrence of MAI, while the contribution of other variables (parental education or employment, living in a Roma settlement, parental control, hopelessness, hostility, hyperactivity, conduct problems, peer problems, prosocial aspects, being drunk, truancy, intentional fighting and carrying weapons) was of less importance.

Conclusion

Gender, emotional symptoms, age and participation in group fights proved to be the strongest predictors of adolescents' MAI, with the effects of these determinants also modifying each other.

Leisure time activities, parental monitoring and excessive drinking among adolescents

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Background

One of the most common externalizing problems in adolescence is excessive alcohol use, which is also a major public health issue. The aim of this study was to describe the role of leisure time activities which are considered as 'risky' and the role of parental monitoring in excessive drinking.

Methods

We conducted a cross-sectional questionnaire-based survey among Slovak adolescents in 2006. The sample consisted of 3694 elementary school students from the eighth and ninth grades (mean age 14.3, 49.0% males). Respondents answered questions on the frequency of drunkenness in the previous month, on participation in three leisure time activities considered as 'risky' (going out with friends, going to parties and going to sports matches) and on parental monitoring. Binary logistic regression analyses and *t*-tests were performed to analyse the association between the adolescents' excessive drinking and leisure time activities as well as parental monitoring.

Results

Adolescents who participate in at least one of three 'risky' leisure time activities (daily or several times a week) and those

with lower levels of parental monitoring were more likely to report excessive drinking (drunkenness in the previous month). Moreover, adolescents who participated in at least one 'risky' leisure time activity and reported to have been drunk in the previous month (27%) were significantly less monitored by their mothers, but not by their fathers in comparison with those who participated in the mentioned activities but did not report having been drunk (73%).

Conclusion

Our findings indicate that participation in specific kinds of leisure time activities and low levels of parental monitoring (in particular by mothers) are linked with the likelihood of adolescent excessive alcohol drinking. This supports the importance of parental monitoring of the whereabouts of adolescent children for preventing excessive drinking.

Aspects of self among physically active and passive adolescents

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Background

Physical activity has a number of positive effects on adolescent health. Previous studies have reported girls to be less physically active than boys and a decline in physical activity with age more apparent among girls. The aim of this paper was to explore possible differences in aspects of self among three groups of adolescent boys and girls: those with no physical activity, those with regular physical activity and those with everyday physical activity.

Methods

A sample of 501 elementary-school students (mean age 14.7 ± 0.9 years, 48.5% males) from the Slovak and Czech Republics completed the Self-concept scale, the Self-competence/Self-liking scale, the Rosenberg's Self-esteem scale (positive and negative self-esteem subscales), the Self-efficacy Scale (general and social self-efficacy subscales), the Self-regulation Scale and a question on their physical activity during the previous week. Respondents were divided into three categories: (i) no physical activity, (ii) regular physical activity and (iii) everyday physical activity. Data were explored with a one-way analysis of variance (ANOVA) separately by gender.

Results

Analysis of variance revealed differences between adolescents with no physical activity and adolescents with regular or everyday physical activity. More frequent physical activity among boys was associated with higher self-liking ($P < 0.05$) and social self-efficacy ($P < 0.05$). At the same time, more frequent physical activity among girls was associated with higher self-concept ($P < 0.01$), positive self-esteem ($P < 0.001$), self-liking ($P < 0.001$), self-competence ($P < 0.001$), general self-efficacy ($P < 0.001$), social self-efficacy ($P < 0.01$) and lower negative self-esteem ($P < 0.001$).

Conclusion

The reported findings suggest, that regular physical activity is connected with aspects of self among adolescents, especially in girls. Based on these gender differences, it could be assumed that the enhancement of aspects of self among adolescent girls might lead to a higher frequency of their physical activity, which is lower than that among adolescent boys.

Body image and the quality of life related to oral health in teens

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Background

For teens, body image is fundamental in order to be accepted amongst their peers. A smile has implications on the self-image of an adolescent therefore oral health is highlighted amongst the numerous factors that has a positive influence on body image. In this context, this study had the following objective evaluate the level of Satisfaction with Body Image and the Quality of Life Related to Oral Health (QOLROH) in teens.

Methods

Cross-sectional study and descriptive carried out in a sample of 323 adolescents (average age 13.58 years old; SD 1.459), being 55.42% boys and 44.58% girls.

Material

Questionnaire on Oral Health, Scale of the Quality of Life Related to Oral Health, and Scale of the Evaluation of Dissatisfaction in Adolescents.

Results

A majority of adolescents have a carie (47.06%), carie free are 33.17%. The high risk of developing caries affects 86.07% of adolescents, 13.93% present a low risk. Plaque build up that is visible to the naked eye is 54.35% of adolescents. The index of Teeth that have Caries, are Missing or Obturados (CPOD), average was 2.73. The QOLROH is good for 60.06% of adolescents, weak for 22.60% and 17.34% classified it as being fair, girls being more satisfied (60.42%), (boys 23.46%). The majority of adolescents are fairly satisfied with their Body Image (82.04%), 2.79% are very satisfied and 15.17% are unsatisfied. The satisfaction with body image was associated with QOLROH, ($r = 0.418$; $P = 0.000$), showing that the greater the satisfaction with body image the better the QOLROH of adolescents.

Conclusion

The results suggest that Oral Health should be promoted as a way of increasing satisfaction with Body Image and improve the QOLROH for students.

The effect of self-esteem and personality factors in determining young Slovak adolescents' willingness and decisiveness to participate in health promotion programmes

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Background

Adolescence is a time of change and development for young people. In particular, the emergence of reproductive sexuality, social role redefinitions, cognitive, emotional, and moral development and transitions from school are apparent. The existence of effective health programmes can help young people to manage these changes more successfully. The aim of this study is to explore the effect of selected intrapersonal characteristics on young adolescents' willingness and decisiveness to participate in health promotion programmes.

Objectives

Binary logistic regression was performed in order to explore the simultaneous contribution of intrapersonal characteristics (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, Openness to experience as factors of the The Big Five; as well as factors of Positive self-esteem and Negative self-esteem) towards the willingness and decisiveness of adolescents to participate in health promotion programmes (3694 young Slovak people, mean age 14.3, 48.7% girls; 24.4.3% (24.43%?) boys and 33.3.2% (33.32%?) girls demonstrated willingness; 72.3% boys and 69.5% girls demonstrated decisiveness). The data file was divided into separate groups for gender-based analysis.

Results

It was found that higher levels of Agreeableness among boys and lower levels of Negative self-esteem among both girls

and boys were significantly associated with willingness to participate in health promotion programmes. However, higher levels of Positive self-esteem among boys and higher levels of Openness to experience among girls were found to be significantly associated with decisiveness to participate in health promotion programmes.

Conclusions

It is important to consider both gender differences and the roles of personality characteristics when judging the effectiveness of preventive health programmes and in supporting the willingness and decisiveness of adolescents in future health programmes.

Facts about contraception and sexual behaviour in Romanian young adults

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Background

Our purpose was to establish the levels of knowledge and behaviour regarding contraception in a sample of young adults from Romania, in order to develop an efficient family planning programme.

Methods

It is a retrospective epidemiological community study, made in 2008, by using a questionnaire with 70 items for 884 young males and women, with an age range of 16–39 years, from different Romanian counties. We used Epi Info statistical soft.

Results

In Romania, we have a complex and various sexual education which differ by counties, religion, education, socio-economic level and urban/rural area. First, sexual act protection is not an option for most of our subjects (71.26%) compared with other European countries. The age group preoccupied with the quality of intercourse ranges between 19 and 30 years: they have daily contact lasting 5–15 min; the quality is directly proportional with the life quality and with the duration of the professional activities. The first pregnancy is usually not planned because of lack of information regarding contraception but second one is (only 12.45% did it). The most used method of contraception is still the calendar. Women are not prepared enough regarding the use of condoms. Hormonal methods are used frequently in our sample. In our group, the usage frequency is higher for contraceptive pills compared with others ($P < 0.001$ compared with injections and $P < 0.004$ compared with emergency contraceptives); the pills are used more frequently in the urban areas than in rural areas like other countries. Only 45.81% of women heard about intrauterine devices. Unfortunately, medical services are not enough involved in educating the population regarding side effects of oral contraceptives.

Conclusions

We can achieve an adequate level of knowledge in reproductive health care by implementing efficient sexual education activities in order to build up a good sexual behaviour. Also, it is needed that prevention services be considered as main objectives in improving population health status.

Quality of care in child health services in Bulgaria: a qualitative study

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Background

Recent health care reforms in Bulgaria introduced systems of general practice and health insurance, reorganized hospital services, and set up new payment mechanisms for providers. New quality control mechanisms have also been introduced, such as contracts between the National Health Insurance Fund and providers, reestablishment of professional organizations of physicians and dentists, and accreditation of medical facilities. Our study aimed to explore perceptions of the quality of care in child health services.

Methods

The following complementary research methods were used: 50 qualitative in-depth interviews, analysis of regulatory documents and review of the literature and epidemiological data. Respondents included policy-makers, providers and users of health services, from both rural and urban areas.

Results

Problems identified included insufficient training of general practitioners, medical errors, delays in response to emergencies, inadequate information provided to patients and underdeveloped child public health. A common view was that paediatricians provide higher quality care than general practitioners. Health services in rural areas and children's institutions were generally perceived to be of poor quality. Respondents described a lack of clinical guidelines for rational use of pharmaceuticals, overprescribing of antibiotics, reliance on pharmaceutical companies for information, and unrestricted sales of drugs over-the-counter. Clinical pathways, introduced as a payment mechanism in hospitals, were perceived as lacking transparency, complicating clinical practice, and forcing doctors to record wrong diagnoses and conduct unnecessary investigations. Most pathways were common for adults and children, and physicians perceived them to be unsuitable for paediatric conditions.

Conclusions

Our findings indicate the need to develop evidence-based clinical guidelines for primary and secondary care, establish payment mechanisms that facilitate quality improvements, improve continuing training of physicians and strengthen child public health.

Quality assessment model of services for children with disabilities through the use of an anonymous questionnaire

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Problem

Child disability is a growing concern for Armenia: household survey recently realized by UNICEF and the Ministry of Health (MoH) found out that 12.6% of children have a developmental disorder/disability. To tackle the problem, Arabkir JMC-ICAH, with the support of 'Mission East' Danish NGO and under auspice of the MoH initiated establishment of Child Development and Rehabilitation Centers, where newly trained multidisciplinary teams provide a wide range of rehabilitative services. Continuous quality control is crucial for the assessment of the effectiveness of innovative approaches.

Description of the problem

The objective of the study was to analyse and evaluate beneficiaries' satisfaction with accessibility and quality of introduced rehabilitative services for children with developmental disorders/disabilities. Beneficiaries were selected randomly and questioned by monitoring specialists during conducted home visits through the use of specially developed anonymous questionnaire from April to November 2008.

Results

Sixty-one anonymous questionnaires were filled out. Fifty-three beneficiaries (89%) receiving rehabilitation were satisfied with the services and provided with the information regarding care. Regardless overall satisfaction, many beneficiaries expressed discontent with professional performance and communication skills of some specialists.

Lessons learned

Continuous quality assessment of the services through the use of functional and operational tools is a key factor for improvement of treatment outcomes. The developed assessment model proved its effectiveness and anonymous questionnaires have also been applied in other settings: lessons learnt were used to provide a feedback to care-providers and to improve quality of services.

Need assessment of carers and children in kinship care in Navarre (Spain), a qualitative research

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Background

There are few data of the prevalence of kinship care in Europe. In the USA, 5.6% of all children younger than 18 years lived in their grandparents' household. This project funded by the Public Health Agency of the EU aims to improve the quality of alcohol and drug prevention programmes targeting children and young people living in kinship carers.

Methods

This study used qualitative research methods. A sample of 21 kinship carers was selected from a total 189 children in kinship care in Navarra registered in the Department of Social Welfare of Navarra was selected. A personal structured interview with duration of ~1 h was conducted. In a second stage, focus group had been used to further illuminate those interviewed aspects.

Results

The needs of kinship carers were: (i) legal advice to legalize their status and to know their rights and duties; (ii) psychological support to overcome psychological stress situations due to their diminishes capacity linked to old age; (iii) financial aid to cope with the increased costs; (iv) information and advice on the eligibility of welfare benefits; (v) training for coping with all the issues relating with rising

children as well as alcohol and drug prevention. In children and teenagers the needs were (i) school support: many children have learning disabilities such as dyslexia or attention disorders; (ii) psychological support due to a low self-esteem and some predisposition to addiction as a result of the suffering due to their traumatic experiences and life situation.

Conclusions

Kinship care linked to parent drug and alcohol misuse is an emerging problem. Policies should address this issue for helping the children to avoid alcohol and drug abuse. Those policies should be focussed in children as well as in kinship carers by including not only financial help but psychological, scholar and legal support.

Optimizing protection in paediatric computer tomography

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Background

Computer tomography (CT) is considered a diagnosis tool which allows specialists to get high quality images. However, the dose levels in CT strike an alarm signal regarding the increase of the CT radiation dose in the population. The reasons for the increase must be examined: is it only the result of a growing number of CT examinations or is it an increase of the CT doses? The concern comes from the fact that the CT radiation doses are 100 times higher than in conventional examinations.

Methods

The study was carried out in eight CT laboratories. The frequency of investigations and the exposing parameters as well as the in-taken doses by the patients (children) for the most important procedures have been studied. The CT equipments we studied differ in the acquisition technique of radiological images.

Results

Number of CT examinations increase every year, and the percentage of positive exams varies between 56.6 and 73.2%. The patients' average doses varied from one laboratory to another. The highest level was found for the skull CT (29.8 and 105.13 mGy). The interval for abdomen CTs were between 12.7 and 29.9 mGy. The average values we found are significantly higher or lower in statistics ($P < 0.001$) compared with those in other similar studies.

Conclusions

The trend of CT examinations is in a continual growth and the specialists' belief is that there should be efforts in order to reverse this trend mainly by a correct justification of each investigation. A special training for those using CT for the understanding of the effect of a correct choice of the scanning parameters is of paramount importance in modifying some protocols suited to the investigation type, result of which could be a decrease of the dose per patient without affecting the radiological image quality.

Saturday 28 November, 10:30–12:00

Poster Session 11: Elderly and women**Needs assessment of the old people in Dolj County Romania**

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Issue/problem

Aged persons represent a particular population segment, forgotten by the authorities and society.

Description of the problem

Given a rapid increase in their number and the proportion to the total population, aged care is increasingly in needs.

This segment of population has only social insurance. Specific hospitals are also needed.

Results (effects/changes)

This study provides its contribution to the assessment of aged care needs from a cross-sectional study carried out in the year 2008 on the representative sample of 300 old persons. The questionnaire-based interview was administered to 300 persons from old facilities care. Information about general socio/demographic information, social activities, health status, nutrition, health risks, quality of health care was covered.

Lessons

These results are a good framework for future planning in old health care. At present very little facilities are available. Needs and services that are required for the elderly citizens are higher.

Seniors and social care in Czech Republic 2008–09

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Background

Demographic 'double aging' brings high need, demand and consumption of care. Old age is represented mainly with females, widows with lower pensions. The main task of this survey was to know their awareness about social services, insurance of help in dependency, their wishes and needs.

Methods

Anonymous questionnaire study was made in University of 3rd Age in 2008 and 2009. Total number of sample was 281 females in retirement age.

Results

All women have pensions, 9% are still employed, 45% live with partner, 45% alone, 57% have two children. Pension was in 48% same as median pension in Czech Republic, 60% needed more. One fifth did not save money for old age, 11% have poor perceiving health. Majority of females provided any care for family disabled members, 5% used personal assistance, 10% other social service, 36% never care. More data will be presented (e.g. information about contact for helping organizations, social benefits, their opinions of the role of government, spectrum of offering services, awareness, pensioner homes, prizes of services).

Conclusion

There is a problem of effectiveness in spending of benefits. One quarter do know how to use social benefits, 22% would use money for family, 14% buying service and 19% both variants. Family has main role in care. About 2% have no children. Family would not pay for care in 15% of them, 57% do not know and only 23% would pay. Relatively good estimation was in prize of home nurse, poorly estimated prize for bed per month in pensioner home. 38% are interested to live in pensioners homes, half of sample visited someone. There is enough space for improvement of awareness in social benefits, prizes of care etc. Elderly should save more money for disability; family should have respect to their old members and appreciate governmental help.

Self-assessment of neglect of psychosocial and material needs and health-related quality of life in older people. A Cracow Study

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Background

Based on Exchange Theory and Bergtson's model of inter-generational solidarity, this study examined the relationship

between perceived neglect of older people's needs and differences in their health-related quality of life (HRQoL).

Methods

Face-to-face interviews examined how 456 community-dwelling older people perceived their needs as being realized and how they felt their expected level of psychosocial and material support was being neglected by younger generations. A 'neglected needs scale' was developed based on these interviews. Particular dimensions of HRQoL were defined as low provided their score was below the median. The risk of a low score was measure using logistic regression modelling with SPSS 15 for Windows for two models: (i) a general evaluation of how older people's needs are neglected and (ii) the above-mentioned scale.

Results

Individuals who reported that older people in Poland are not treated well were at a 1.97 times higher risk of poor self-rated health (95% CI 1.23–3.15), [2.5 times higher (95%CI 1.55–4.55) in individuals with a secondary or lower level of education]. The risk of restricted functional status due to health problems was 1.7 times greater in individuals who believed that neglect of older people's needs is a problem in Poland (95% CI 1.07–2.71). This risk was 1.33 times greater (95%CI 1.13–1.56) in those scoring higher on the maltreatment believes scale. This risk was 1.7 times greater in widows/ers (95% CI 1.01–2.79). The risk of restricted functional status in one's social life rose 1.64 times in individuals who scored higher on the neglected needs scale (95%CI 1.37–1.96).

Conclusions

Select dimensions of HRQoL are decreased when older people perceive their needs as not being met.

Changes in the emotional status of older people as a consequence of feeling neglected. A Cracow Study

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Background

The relationship between feeling neglected by family members, as self-reported by older people, and emotional status is very important for evaluating general health-related quality of life (HRQoL) in older age. This study examined this relationship as a predictor of general HRQoL.

Methods

The study was conducted in a simple random sample of 456 older people, including 290 (63.7%) women. Face-to-face interviews were performed among older citizens of Cracow, focusing on feelings of different forms of neglect, in relation to characteristics of their social network and family environment. HRQoL was measured using the SF-36 test. Particular dimensions of HRQoL were defined as low provided their score was below the median. Risk of lower levels of HRQoL was done with logistic regression modelling using SPSS 15 for Windows.

Results

Almost 75% of those sampled were aged ≤ 75 years, 42.4% were currently married and 38.1% widowed. Approximately half of the sample interacted socially with one to three individuals weekly (i.e. not co-resident) and $\sim 10\%$ were socially isolated. The risk of restricted functional status due to one's emotional state is two times greater in women (95% CI 1.28–3.12), though lower among those who interacted socially with more than four individuals weekly (Exp(B) 0.60; 95% CI 0.39–0.94). The risk of rating one's psychological health as low was 1.66 times higher in individuals who reporting that older people in Poland are not treated well (95% CI 1.08–2.56). This risk is 1.88 times higher in women (95% CI 1.23–2.87), and approximately 1.7 times higher in individuals reporting a secondary or lower level of education (95% CI 1.01–2.86).

Conclusions

Data confirm the significant relationship between feelings of neglect and emotional status as a predictor of general HRQoL.

The current state of health promotion in Polish older people in the light of healthPRO elderly project

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Background

The aim of the article is to present the state of health promotion in older people in Poland after 1989 on the basis of research conducted within the framework of the healthPROelderly project, and to evaluate the current state of health promotion in older people using SWOT analysis. An additional aim is to provide recommendations for future interventions in this field.

Methods

(i) Content analysis of scientific and popular publications;
(ii) review of existing Polish health promotion programmes;
(iii) programme case studies, and (iv) SWOT analysis of the state of health promotion in Poland based on these data.

Results

In the past 20 years, in terms of planning and realization, efforts aimed at health promotion in older people were only sporadically realized. There were neither macrostructural programmes targeting this age group nor was this an element of national health policy. Only a small number of health promotion programmes targeting older people were found. As health promotion in older people in Poland remains in its early stages, the fact that such programmes even exist may be considered a great accomplishment. Yet, a strategy reflective of Dean and Holstein is still lacking, where the specific needs of older people (e.g. chronic disease patients) would be addressed.

Conclusions

There should be a renewed focus on health promotion, as opposed to preventing disease. Health promotion campaigns should target those with a decreased awareness of their health needs, with improvement in health status being based on increasing this awareness. In an effort to develop more health-conscious attitudes and behaviours in older age, health promotion initiatives should also be marketed to preretirement-aged individuals.

The model of advertising of health goals for older people—presentation of CHANGE project

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The 2 years CHANGE project (Care of Health Advertising New Goals for Elderly people) started in 2008 and funded by EU from Lifelong Learning Programme Action (the GRUNTVIG project) to develop a universal and effective model of change of behaviour of less educated older persons, in order to promote

walking and healthy diet. We assume that this new health promotion strategy will be adopted next by health and social care institutions in a systematic way and as a part of current practices carried out by different mediators (doctors, gerontologists, social workers, psychologists, pharmacists).

The specific objectives are:

(i) to enhance effectiveness of ways of spreading information on healthy lifestyle, by developing a referential model using:
– theoretical and practical approaches of psychology and social marketing;

– different channels and content of information and
– motivational techniques and emotional marketing.

(ii) to increase mediators' competencies and awareness of their role in educating older people,

(iii) to disseminate the model and develop materials carrying out horizontal and vertical mainstreaming actions.

– Eight institutions in five countries: Italy, Austria, Spain, Poland and Lithuania will be involved in the study coordinated by the University of Salerno to carry out the following actions:

– synthesis on the latest psychological theories based on emotive marketing techniques;

– design of the CHANGE model for educating older adults in adopting healthy lifestyles;

– design and realization of a vocational training (plan, content, didactical kit, methodology) for 6 mediators in each country;

– testing effectiveness of the CHANGE model among 120 older persons in each country (600 in total) by trained mediators during their regular working activity;

– dissemination of the CHANGE model, training programme and didactical kit.

Conclusions

The partners of the project aim to elaborate an effective way of advertising healthy behaviour among older persons.

Is OptimaHI 60plus an effective tool to improve the communication between health professionals and the target group in relation to physical activity and nutritional behaviour?

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Background

OPTIMAHL 60plus is a counselling aid for the elderly. It aims to improve the nutritional and physical activity behaviour, maintenance and enhancement of the quality of life, and the autonomy of the elderly with special attention to people with migration background and to those in low SES districts.

Special emphasis is placed on the question how a health programme can support the communication between health professionals and the elderly. With the help of OPTIMAHL 60plus the communication between elderly and health professionals should be improved and facilitated, as well as, tangible and relevant impulses for conversation are introduced.

Methods

The acceptance of the counselling aid is measured after an intervention phase of 3 months and 6 months later. Telephone interviews are conducted with health professionals and face-to-face interviews are realized with the elderly. The acceptance of the instrument is measured by four criteria.

Results

First, results indicate that 89% of the elderly are satisfied handling the instrument. Most of the target group (70%) agreed that the counselling aid supports reminding them what they should eat or how active to be per day. General practitioners mostly consider OptimaHI 60plus as an effective tool to get a first impression of the health behaviour of the

elderly. Additionally, the instrument helps to focus and to identify challenges and resources of the target group.

Conclusions

OptimaHl 60plus will contribute to the communication between health professionals and the target group in relation to physical activity and nutritional behaviour.

Keeping warm and well in later life

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Background

Cold housing contributes to chronic health problems, excess winter deaths and impaired quality of life. Fuel poverty (spending 10% of income on fuel) links to cold housing and contributes to health inequalities within British communities. Little is known about what influences choices in keeping warm in later life with a limited income. This qualitative study explores lay epidemiology (knowledge, beliefs and values) to identify factors that influences such choices.

Methods

This is a qualitative pilot study. Two focus groups of six participants were conducted in community settings in the north of England. Participants were recruited from older people's community groups and included four men and eight women. The discussions were semi-structured, using a topic guide generated from related literature and policy. One researcher facilitated the group, another scribed proceedings. Framework analysis was used to identify key themes

Results

The findings indicate that a lack of money contributes to compromises around keeping warm. Many acknowledged that heating and fuel bills were a constant worry. Barriers to uptake of affordable warmth initiatives for older people include:

- Fuel payment methods
- Fear of loosing control
- Disruption in the home
- Lack of trust in energy companies
- Safety and usability of new heating devices.

The findings also indicated intrinsic factors that explain why older people make choice about home conditions, including myths and beliefs about benefits of cool home temperatures.

Conclusions

This pilot study indicates the need to develop interventions to improve the uptake of interventions to improve warmth in the home in later life. The findings have been used to secure a Department of Health grant which aims to (i) promote engagement of older people in keeping warm initiatives and (ii) to improve organizational efficiency and interagency working to prevent avoidable cold-related mortality and morbidity.

Autonomy of disadvantaged older people in big cities and rural communities: the role of care and support networks

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Background

Health inequalities persist into very old age. Older people with a low SES experience earlier restrictions to their mobility, due to morbidity and functional losses and for financial reasons. Their autonomy—defined by the WHO (2002) as 'the perceived ability to control, cope with and make personal decisions about how one lives on a daily basis'—is therefore more often and earlier dependent on formal and informal care and support networks. Additionally there is the burden of

scarce individual and collective resources. Our study examines care and support networks of older people in metropolitan and rural environments and their ability to assist community-dwelling disadvantaged and frail elderly in maintaining their autonomy.

Methods

Following the approach of Institutional Ethnography two neighbourhood-based case studies are being performed, one in a metropolitan environment (traditional working class neighbourhood in Berlin) and one in a rural district in Brandenburg. Semi-structured qualitative interviews on the core topic of 'supporting autonomy' are being conducted with local professionals, organizers and politicians (about 20 interviews per case). The analysis is taking place using MAXQDA.

Results

The Berlin case study reveals unmet needs for disadvantaged older people regarding social participation and inclusion, especially where mobility problems are present. Statutory care services being provided, there remain access to care problems for disadvantaged target groups. However, 'cultural resources' of a diverse neighbourhood with a vibrant civil society have been identified. These results will be contrasted with those from the rural case study (in progress).

Conclusions

At the current stage of our research we see the need for policy changes in order to adapt social/spatial environments to the needs of disadvantaged older residents. Attention should be given particularly to the promotion of social participation and inclusion of those who require outside support, thus going beyond the immediate care needs of the communities served.

Social-economic obstacles in meeting post-hospital health needs of elderly in Bulgaria

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Background

Population aging is strongly expressed both in the European region and in Bulgaria (people aged 65 years and over—17.32%, 2007), with increasing hospitalizations of elderly. There is very limited information about what happens to the elderly patients after they have been discharged from hospital, what their health needs are and to what extent they have been met.

Methods

Results from a research of post-hospital health needs of patients aged 65 years and over, discharged from surgical (surgical, orthopaedic) and therapeutic (internal, neurological) wards of two multi-profile hospitals for active treatment are presented. Information from patients is obtained via a semi-structured interview on the 7th ($n=362$) and on the 30th ($n=339$; 23 are excluded due to death) day after discharge at their homes in 12 towns and 64 villages.

Results

Monthly income (pension) of 269 (74.3%) respondents is under the poverty line in Bulgaria. Because of insufficient financial means: in homes of 38 (10.5%) respondents the heating is inadequate; 19 (5.3%) do not have telephone; 28 (7.7%) do not keep to a recommended diet; 40 (11.0%) assessed their nutrition as insufficient; medication treatment of 21 (6.2%) patients up till the 30th day after discharge is stopped or interrupted. On the 7th day after discharge, 163 (45.0%) and on the 30th day 125 (36.9%) respondents need help to perform one or more activities of daily living. Neighbours provide personalized help to the elderly living alone or help is not provided. Social services do not participate in home care, except providing meals. From 103 (28.5%) patients needed of technical aids, only two are supplied with aids up till the 7th day after discharge by the Agency for social

support, up till the 30th day nine patients are not supplied with technical aids, because of the complicated administrative procedure.

Conclusions

Social-economic obstacles in meeting post-hospital health needs show a necessity for adequate financial policy to the elderly in Bulgaria and closer collaboration between medical and social services.

Gender difference in the associations between vision and hearing impairments and adverse health outcomes in Japanese older adults

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Purpose

The aims of this study were to examine the association of vision and hearing impairments (as measured by objective methods) with adverse health outcomes (AHO), including death, nursing home admission, long-term care eligibility and impaired basic activities of daily living, and to investigate whether this association varied by gender.

Methods

From 2005 to 2006, a total of 801 residents (337 men and 464 women) aged 65 years or older living at Kurabuchi Town (Takasaki City, Gumma Prefecture, Japan) participated in the baseline examination including sensory assessments, and followed up through September 2008. From the baseline examination, vision impairment was defined as a corrected visual acuity of worse than 0.5 in the better eye, and hearing impairment was defined as a failure to hear a 30 dB hearing level signal at 1 kHz. The outcome information obtained from the town office and a face-to-face home visit interview. After stratification by gender, we calculated the risk ratios (RR) of AHO for vision or hearing impairments.

Results

During a mean follow-up of 3 years (follow-up proportion = 99.4%), 34 men (10.1%) and 52 women (11.3%) had AHO. In both gender, vision impairment was related to an elevated risk of AHO though the RR was attenuated after adjusting for hearing impairment, age, educational level, marital status, smoking, alcohol consumption, past/current history of major illness and diabetes mellitus, but was still marginal in women (multi-adjusted RR 1.60, 95% CI 0.97–2.63). In contrast, it was only men that observed the significant association between hearing impairment and AHO (multi-adjusted RR 3.10, 95% CI 1.43–6.72).

Conclusion

In this population, vision and hearing impairments were associated with AHO, and gender difference was observed in this association. Our results suggest that care for sensory impairments might be targeted differently for men and women.

The long-term care in Europe: relationship between supply and needs of elderly.

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Background

The ageing population in Europe is putting an ever increasing demand on the long-term care (LTC) services provided by these Countries. The purpose of study is to analyse the relationship between available LTC services and health care needs of elderly in European Countries.

Methods

An observational, cross-sectional and ecological study, referring to 2006 was conducted on the available data of 14 European Countries (Belgium, Czech Republic, Denmark, France, Germany, Hungary, Iceland, Italy, Luxembourg, Netherlands, Norway, Poland, Spain, Sweden). Official data provided by international sources (Organization for Economic Co-operation and Development, European Union and World Health Organization) were analysed. The distribution of LTC beds and elderly disability standardized rates was charted through scatter plot dividing studied countries into four groups: (i) high level of available residential care services and high level of health needs; (ii) low level of available residential care services and high level of health needs; (iii) low level of available residential care services and low level of health needs; (iv) high level of available residential care services and low level of health needs. For each group were analysed standardized self-perceived health (SPH), health care expenditure on LTC (HCE), social expenditure (SE) expressed by purchasing power standard (PPS).

Results

In group 1 (Germany, Luxembourg and Belgium) the lowest level of SE (18 million of PPS per 100 000 elderly) was found; in group 2 (Hungary, Poland, Italy, France, Spain and Czech Republic) the highest SPH (29%) and the lowest HCE (154 euros per inhabitant) were reported; in group 3 (Denmark and Sweden) the highest level of SE (576 million of PPS per 100 000 elderly) was shown; in group 4 (Netherlands, Norway and Iceland) the highest HCE (609€ per inhabitant) and the lowest SPH (9%) were found.

Conclusions

These findings show a high degree of variability among European Countries. Health care policies should pay attention to this evidence while implementing LTC services.

Including institutionalized persons in health surveys—experiences from the Health 2000 survey in Finland

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Health surveys are needed to get information on health and functioning of the population. Excluding institutionalized persons from the sample causes bias and limits the representativeness of the results. The aim of this study was to evaluate the feasibility of including institutionalized persons in a health survey.

The Finnish Health 2000 Survey is a comprehensive health interview and examination survey. The sample of 8028 persons aged 30 and over was drawn from the population register. For persons aged 80 years and over, higher sampling probability was used. The register based follow-up is ongoing and a resurvey is planned for 2010.

A high participation rate in all age groups (81–92%) was obtained for the interviews. One-third of those aged 75 years and over were interviewed in institutions. A supplementary phone interview or short mailed questionnaire was obtained from an additional 3–11%. A comprehensive health examination was carried out a few weeks later in health centres, with the participation of 40–89%, depending on age. A supplementary examination at homes or in institutions increased the participation by 2–33%. Based on register data on permanent placement in institutions 7% in the age group 75 to 84 years and 24% among those aged 85 years and over

were institutionalized. The results were significantly effected by including institutionalized persons. For example, the prevalence of walking inability among all female participants was 5%, while among those reached by the supplementary methods the prevalence was 31%.

Inclusion of institutionalized persons to health surveys is possible but requires extra efforts. Representativeness of the survey results can be substantially improved by these efforts, specifically among those aged 75 years and over.

Exclusion of older subjects from ongoing clinical trials on heart failure

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Background

HF is a prevalent disease in older people and a major cause of hospital admission in the EU. Our aim was to assess the extent of under-representation of older persons in ongoing clinical trials on HF, and to identify the variables most frequently associated with the exclusion of older people from trials on HF.

Methods

A search for ongoing clinical trials (CTs) was undertaken through the WHO International Clinical Trials Registry Platform (WHO-ICTRP). The WHO-ICTRP reports a dataset of information summarizing the protocol of each registered study on HF. Variables on CT design and eligibility criteria were analysed. A descriptive and logistic regression analysis was performed in order to find associations between the variables analysed.

Results

Among 259 ongoing CTs on HF, explicit exclusion of older persons based on an upper age limit occurred in 26% of CTs. Many trials used exclusion criteria that indirectly lead to the exclusion of older people: exclusion by specific comorbidities in 75% of CTs, by reduced life expectancy in 36%, by cognitive impairment in 27%, by inability to attend the follow-up in 21%, by physical impairment in 15%, or by the concomitant use of drugs in 21.2% of trials. Explicit upper age limit exclusions were higher in pharmacological or educational/lifestyle interventions than in CTs on devices. Upper age limit exclusion was also more common in drug trials performed in public, uncentre institutions, and in drug trials performed in the EU (compared with trials performed in the USA).

Conclusions

Online public access to ongoing clinical trials on HF has allowed to identify the persistence of significant exclusion of older people from clinical trials on HF. Pharmacological trials conducted in public institutions, especially in the EU, should be a target for future intervention in order to reduce the under-representation of older people in CTs.

How to increase the participation of the elderly in clinical trials—preliminary data from the PREDICT project

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Most often clinical trials testing new medicines are conducted among adults excluding older persons, mainly due to comorbidity and concurrent treatments. Considering physiological and pathological changes in drug metabolism altered by the aging process, medicines tested in younger populations may lead to uncertain results when applied to elderly people. Therefore increasing participation of older adults in clinical trials is a serious challenge for public health policy. This issue has been studied in the PREDICT project supported by the European Union (FP7 Health research, grant number HEALTH-F4-2008-201917) involving scientific centres from 9 countries (Czech Republic, Italy, Israel, Lithuania, Netherlands, Poland, Romania, Spain and UK).

Methods

First, a systematic review of literature was performed to find reasons for exclusion of older people from clinical trials. Then focus group interviews with patients (with hypertension, cardiac diseases, diabetes, dementia, depression, cancer or stroke) and care-givers were performed. In addition, questionnaire interviews with professionals (including geriatricians, general practitioners, clinical trialists, pharmaceutical industry managers, ethicists) were conducted in all countries to find causes of exclusion of older people from clinical trials; and predisposing and blocking factors.

Results

The systematic review concluded that comorbidity is the most common reason for excluding older people from clinical trials. Preliminary results of focus groups with patients and interviews with professionals suggested causes of this exclusion and advice on how to avoid it. Basing on preliminary results from the study done in Poland we might define crucial strategies (providing information, long-term monitoring, support, legal regulations) targeting different stakeholders (patient, family doctors, trialists, pharmaceutical industry), to be applied at different levels of public health policy.

Conclusion

On the basis of the results, a charter including recommendations to increase participation of older persons in clinical trials will be developed and presented to the European Commission and widely disseminated among professionals, patients and health policy bodies.

Women with low educational level and with a poor knowledge of cervical cancer risk factor are the main target of active screening programmes: some evidence from a large cross-sectional survey

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Background

An active screening programme for cervical cancer is currently carried out in the Abruzzo Region (Italy), with invitation letters sent to all women at risk. The programme started in

2006 with an advertising campaign performed on local media and newspapers. The aim of this study was to describe the characteristics of women who got a pap test, trying to identify predictors of knowledge about risk factors of cervical cancer, to define determinants of repeated pap test and to compare women who performed pap test as a consequence of the screening programme with those who had pap test for other reasons.

Methods

A cross-sectional survey was carried out through a self-administered questionnaire during 2008.

Results

A total of 8788 randomly selected women were surveyed. Knowledge of cervical cancer risk factors is quite low, as only 27.3% knows that human papilloma virus is associated with cervical cancer. A previous therapeutic treatment following a pap smear abnormality is the strongest predictor of the adequate knowledge (OR 2.66; 95% CI 2.25–3.16), which also increases with higher education level, residency in medium/large cities, and among unmarried. The likelihood of repeated pap test is associated with higher age and absence of educational qualification. Only 38.5% of women performed the pap test as a result of the screening programme. These women are more likely to be married and to have a lower educational level and a poor knowledge of risk factors of cervical cancer.

Conclusions

Globally the results of this survey seem to indicate that women with poor knowledge of cervical cancer risk factors and with lower educational level are the main target of active screening programmes. More efforts are needed to enhance knowledge among healthy women.

Opportunistic mammography screening in Flanders: considerable motivation for drop-out of organized screening

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Background

Every 2 years organized mammography screening is offered by the Flemish Government to women aged 50–69 years. Participants are recruited by a GP, gynaecologist or personal invitation letter from the regional screening centre. Currently, participation in Flanders is reported to be low (41%). This study explores the motivations for non-participation in a drop-out group.

Methods

In December 2008, a detailed questionnaire was mailed to 2000 women randomly selected from the drop-out group ($n=13705$) in Antwerp. Women who had participated at least once and subsequently did not participate anymore during the following 36 months were considered dropouts. Motivations for non-participation in and attitudes on organized screening were evaluated.

Results

We received 724 (36%) questionnaires. Respondents who had recently participated ($n=16$) or had breast cancer ($n=24$) were excluded. Furthermore, respondents who had not fully completed the questionnaire ($n=149$) or had not confirmed being a drop-out ($n=153$) were excluded after taking into account control questions. This resulted in a revised response rate of 19%. Of these, 35% claimed following GP's and 39% a specialist's advice as motivations for non-participation. Moreover, this advice concerned mostly (>85%) an opportunistic screening. Other motivations were having problems with the invitation letter (47%), having a poor experience during the previous participation (31%), practical problems (24%) and personal opinion (49%). Attitudes on screening pointed in favour of free screening and the GP's role as a motivator.

Conclusions

A major part of the respondents seemed unable to correctly interpret the difference between organized and opportunistic screening. The organized screening is guided with severe quality control, is free of charge for participants and cost-reducing for the community. Therefore, strategies for improving participation need to focus on providing adequate information and motivate women to switch from opportunistic to organized screening. More research on the number of women who participate in the opportunistic screening for reasons of prevention is necessary to estimate the potential impact on the participation rate.

Mammography in early detection of breast cancer

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Background

Breast cancer is the main disease cause for women over 40 years representing thus a real public health problem. Early detection of breast cancer using screening mammography increases the chances of treatment and healing. However, mammography is the most exacting radiological examination and implies getting some high quality images with a minimum dose per breast. The female breast is particularly radio-sensitive so, its exposure to radiation implies an attentive assessment of the risk/benefit ratio.

Methods

The present study was carried out in 10 mammography laboratories, from which only one has partially implemented a programme of assurance quality control. The entrance surface air kerma was measured using the multifunctional device for testing the quality of the radiological systems of the RMI 242 type, and the average glandular dose (AGD) was estimated for the standard breast using the conversion factors corresponding to the combination target-filter and the determined values for the radiation beam quality.

Results

The entrance surface air kerma varied on a broad range, and differed from hospital to hospital and even for the same type of device. The AGD estimated for the standard breast were comparable to the reference doses only in the lab which had implemented the system of quality control. The doses varied between 1.4 and 7.2 mSv in the other labs, being statistically significant ($P<0.001$), either lower or higher than those currently accepted by international authorities (3 mSv).

Conclusions

In order to get some high quality mammography, it is necessary to implement the quality control programmes. At the same time, it is necessary to install some devices that display the doses, thus helping the technologists, who would be alerted that the set parameters are inadequate. Moreover, the displayed doses could be used for monitoring the trend of the patients' doses.

Socioeconomic inequalities in female screening. A systematic review on the role of education and income

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Background

Tackling socioeconomic inequalities in preventive health care is one of the main goals of public health. A systematic review of

the literature on disparities in female cancer screening practices (mammography and Pap-test) was conducted in order to evaluate the impact of educational level and income on the utilization of these preventive services.

Methods

A Medline search was conducted looking for international based articles published since 1992. Key search terms used included 'cervical cancer', 'breast cancer', 'screening' and 'socioeconomic factors'. The criteria for inclusion of each study were: (i) reporting socioeconomic variables as indicated by educational level and income; (ii) containing inferential measures of female cancer screening utilization; (iii) including women aged from 18 to 69 years. Focusing on association between cancer screening practices and both socioeconomic factors, we compared those parameters found to be significant (P -value < 0.05) at the multivariate analysis for mammography and pap-smear utilization separately.

Results

The review included 15 articles. Several research designs were cross-sectional studies and data sources used were commonly national health interview survey. Sample sizes and characteristics were different among the studies. Statistically significant associations were found for both educational level and income. With regards to cervical cancer screening, educational level was found to be an important predictor of screening practice in 92% of studies. On the other hand, 69% of articles showed that income was associated to Pap smear utilization. Both socioeconomic factors influenced having breast cancer screening in 73% of studies.

Conclusion

These findings suggest the importance of improving political action to promote awareness and knowledge on cancer screening and to pursue healthy individual behaviours. Better understanding of disparities in health, related to socioeconomic status, may support health care systems developing prevention programmes focusing on disadvantaged groups.

Menopausal symptoms and health seeking behaviour Ozlem Kose

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Background

Women will spend big part of their life at menopause with increase in life duration. Women effected socially, culturally and psychologically with either long time that spending at menopause or quality of that period.

Methods

The aim of this study is to assess the prevalence of menopausal symptoms and health care seeking of women aged over 45 years old. Aged over 45 years old, 542 women who live in Çan and Bayramiç district in Çanakkale county in Turkey were involved in the study. Data were collected with a face-to-face questionnaire including questions about demographics and menopausal symptoms evaluated by menopause rating scale. Descriptive statistics and Chi square test were used.

Results

The mean age of the women included in the study was 60.5 ± 10.2 (min = 45 max = 88). Of all women 74.4% were married, 24.2% widow. Of all women 45.8% ($n=248$) were housewife, 45.2% unpaid family worker. Of all participants 10.0% had no social insurance and 76.4% were grouped in lower socio economic status. The prevalence of postmenopausal symptoms were 82.1% ($n=445$). The most common symptoms that women defined moderate and severe were ranged as fatigue/weakness (83%), sexual complaints (79%), arthralgia/myalgia (76%) and hot flushes/sweating (62%). The percentage of women who applied to health services for menopausal symptoms was found to be 39.3% ($n=212$). Most common complains were related with hot flushes/sweating, sleeping disturbance, arthralgia/myalgia and bladder problems.

Conclusions

The women in this study applied to health services mostly for vasomotor complaints. Although more than half of women did not take health service. They must be supported at social field and health care in this critical period for enhancing quality of life as well as prevention of chronic health conditions.

Prevalence and risk factors for female sexual dysfunction in Portuguese Women

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Background

The importance of sexual health to the satisfaction and quality of life is increasingly recognized. In this context, accurate estimates of prevalence are needed to understand the true burden of female sexual dysfunction and to identify the risk factors.

Objective

To determine the prevalence of sexual dysfunctions in a sample of Portuguese women and relate them to some risk factors.

Method

This was a transversal research with 822 Portuguese women aged between 18 and 75 years (mean = 36.9, SD = 10.5), mostly married (53.5%), with a stable emotional relationship for at least six months; they were randomly selected based on their area of residence (rural and urban). The Portuguese version of the Female Sexual Functioning Index (FSFI) was used to operationalize the sexual functioning; it assesses 6 dimensions of the female sexual function: sexual interest or sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction and sexual pain.

Results

Of the studied women, 43.2% revealed sexual dysfunctions; sexual desire was the most common one (27.8%). The age was negatively associated to the sexual function. The educational levels revealed a significant effect on sexual desire ($F=3.67$, $P=0001$), on sexual satisfaction ($F=2.68$, $P=0.01$) and on the total index of sexual functioning ($F=5.89$, $P=0.000$). The marital status had a significant effect on every dimensions of sexual functioning ($P<0.001$), except for the sexual satisfaction dimension ($F=2.04$, $P=0074$). The age of the partner was negatively related to the sexual functioning, suggesting that the higher is the age of the partner, the worse is the sexual function experienced by the female companion. The variables—place of residence and religion—were not associated to the sexual functioning.

Conclusions

Our research corroborates some studies which reveal a high prevalence of sexual dysfunctions in women. This evidence requests the incorporation of sexual health in the national public health agenda, demanding an interdisciplinary intervention, directed for counselling and sexual education.

Pilot study-centres of wellbeing of women

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In Kosova, there are three 'Centers for women wellbeing' functioning, which offer health care for three regions as: Prishtina, Prizren and Gjilan as new established, modern with new and different approach for patients. Centres are considered as more accessible and attractive for women as health seekers in those reproductive health centres. Goal of this presentation is that through analysis of health services to

identify weaknesses in functioning of these centres with an aim for improving quality of health services, well functioning of those centres in covering reproductive health needs.

Analysis is included for the period from January to December 2006. In centres of wellbeing of women in Gjilan, mostly pregnancy visits with CTG 90.5%, ultra sound with 84.4%, education sessions in groups with 68.8%, and pregnancy visits with 60.4% are realized, however in Prizren's Centre are 59.5% gynaecologic visits and 68.4% interventions are realized. The counselling visits were similar in both centres. Gynaecologist in Prizren are characterized with greatest number of visits as 1714 pregnancy visits, 2721 gynaecologic routine visits, and 2050 for visits as colposkopi, Papa Test, biopsy and contraception for one gynaecologist with significance. In Gjilan centre, greatest portion of visits were for ultrasound, with 825 visits for one gynaecologist, but without any significance.

Usage of contraceptive devices and different contraceptive methods is significantly highest in Prizren's centre with 1147 clients. Condom as contraceptive device is preferred the most in patients visiting both centres, in Gjilan 90.91% and in Prizren 34% with significant distinction compared with other contraceptive devices. Condom usage due to the months of year has no significance, but due to age group mostly represented users were women of 30 years old. Spirals have been inserted to only 40 clients in Prizren centre.

Centres should have better coordination between them on data gathering and reporting and should be unique in all centres. It is preferable to implement a mechanism which should provide continual collaboration in professional basis to report the work done and also for achievement of covering health needs and health education through health education materials.

Single Entry Point System—SEPS: a challenge for the governance of social and health services of frail elderly. An international comparison of public programmes

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Background

Publicly funded health care systems face the challenge of effectively meeting the growing needs of vulnerable elderly. Care for frail elderly is characterized by fragmentation and weak accountability. Recently, there has been increasing interest in improving an effective patient-centred and integrated system providing a single entry point and managed care through multidimensional assessment and case management. This study aims to analyse the variability of this process for an effective track patient intake as reported by publicly funded programmes in Italy and USA.

Methods

An extensive search of scientific and grey literature was carried out querying electronic databases (multipurpose or sectorial search engine) to identify relevant national and local resolutions. Further documentation was collected contacting experts working in the field.

A panel of experts identified the main phases of the single entry point and managed care process for frail elderly. Whether each phase was explicitly reported in the documents was evaluated and the USA and Italian SEPS phases were compared (chi-square test).

Results

First contact and process start-up, preliminary needs screening and prioritization, multidimensional assessment, individual care planning, case management, plan monitoring and needs reassessment were identified as main phases. Single Entry Point Systems potentially cover 1 800 000 and 6 630 698 frail elderly in 17 Italian Regions and 42 States in USA respectively. Differences between the Italian and USA system were found for individual care planning (Italy 82 vs. USA 12%, $P < 0.001$), case management (59 vs 31%, $P \leq 0.047$) and needs reassessment (18 vs 0%, $P \leq 0.005$).

Conclusions

These findings show a certain variability in a clear definition of the single steps of the process of track patient intake. Particularly, poor evidence of plan monitoring and needs reassessment might highlight the necessity of improvements in the governmental strategies. This is a basic requirement to implement equitable access to comprehensive care, integration between social and health services and coordinated continuity of elderly care.

Self-assessment of neglect of psychosocial and material needs and health-related quality of life in older women. A Cracow Study

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Background

Based on Exchange Theory and Bergtson's model of inter-generational solidarity, this study examined the relationship between perceived neglect of older people's needs and differences in their health-related quality of life (HRQoL).

Methods

Face-to-face interviews examined how 290 older women (62.8% of sample of community-dwelling older people) perceived their needs as being realized and how they felt their expected level of psychosocial and material support was being neglected by younger generations. A 'neglected needs scale' was developed based on these interviews. Particular dimensions of HRQoL were defined as low provided their score was below the median. The risk of a low score was measured using logistic regression modelling with SPSS 15 for Windows for two models: (i) a general evaluation of how older people's needs are neglected and (ii) the above mentioned scale.

Results

This risk of poor self-rated health was 2.12 times greater for women, who reported that older people in Poland are not treated well (95% CI 1.16–3.87); those scoring higher on the maltreatment believes scale ($\text{Exp}B = 1.33$; 95% CI 1.10–1.60) [over two times higher (95% CI 1.03–4.23) in individuals with a secondary or lower level of education]. The risk of restricted functional status due to health problems was ~1.37 times greater in individuals scoring higher on the maltreatment believes scale (95% CI 1.11–1.70). This risk was 2.60 times greater (95% CI 1.01–6.70) in those who believed that they were being emotionally neglected. The risk of restricted functional status in one's social life rose 1.44 times in individuals who scored higher on the maltreatment believes scale (95% CI 1.18–1.75). This risk was 3.92 times greater (95% CI 1.60–9.64) in those who believed that they were being emotionally neglected.

Conclusions

Select dimensions of HRQoL are decreased when older people perceive their needs as not being met.

Poster Session 12: Environmental health

Environmental performance, sustainability reports and public health: recent trends in Europe

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The EU Eco-Management and Audit Scheme (EMAS) is a management tool for companies and other organizations to evaluate, report, and improve environmental performance. The Global Reporting Initiative (GRI) is a multi-stakeholder institution that collaborates to provide global standards in sustainability reporting.

In this article we analyse territorial distribution of the organizations adhering to the GRI and EMAS schemes in Europe in order to determine if countries with more organizations registered in EMAS and GRI are also strong in life expectancy at birth, Human Development Index, and Water Poverty Index. To accomplish this, plus the descriptive analysis of the variables, we use chi-squared test and a linear regression model.

In 2008, the countries with greater representation of their organizations in EMAS were Germany, Italy and Spain. For GRI, those with the highest participation were Spain, UK, Holland, and Germany. The chi-square test shows that there are statistically significant differences in distributions of organizations among the countries involved in both schemes. Results from the multivariate model indicate that the three variables have no explanatory power in determining the degree of involvement of organizations of each country with EMAS and GRI schemes.

Therefore, we must conclude that the degree of participation by European companies in environmental schemes, such as EMAS and GRI, does not correspond with the relative position of these countries in terms of health, quality of life, and water. Consequently, we can see that the culture and business strategy are probably the factors that most influence the companies' participation.

The impact of environment factors on the allergic diseases

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Background

The aim of this study is to investigate the relationship between allergic diseases and risk factors of outdoor environment.

Methods

The cross-sectional randomized survey based on ECRHS II and ISAAC protocol was done in nine regions in Poland. 22 449 questionnaires were collected. 18617 were included into the analysis. Of them, 25% had allergic consultations. Respondents declared the influence of outdoor pollution on their airway diseases.

Results

There is high influence of air pollution on allergic and non-allergic rhinitis (Tables 1 and 2).

Table 1 Associations of degree of outdoor air pollutions with allergic rhinitis

Air pollution	OR	95% CI	P
Slightly	1.19	(1.07–1.31)	0.00
Moderate	1.32	(1.19–1.46)	0.00
Strong	1.49	(1.34–1.67)	0.00

Table 2 Associations of degree of outdoor air pollutions with non-allergic rhinitis

Air pollution	OR	95% CI	P
Slightly	1.20	(1.10–1.31)	0.00
Moderate	1.24	(1.14–1.36)	0.00
Strong	1.43	(1.30–1.57)	0.00

There is statistical significance relationships between sources of drinking water and allergic diseases diagnosed by physicians (atopic dermatitis, urticaria and food allergy). 7% of atopic dermatitis patients used drinking water from city water-supply and 4.9% used drinking water from other sources (OR 1.44, 95% CI 1.07–1.94, $P=0.01$). 9.7% of allergic urticaria patients used drinking water from personal captivation and 6.2% used drinking water from other sources (OR=1.62, 95% CI=1.02–2.59, $P=0.04$). 9.6% of food allergy patients used drinking water from stores and 7.8% used drinking water from other sources (OR 1.25, 95% CI 1.02–1.53, $P=0.03$). There was no influence of the traffic on allergic diseases.

Conclusions

Short-term effect of air pollution and quality of water on the allergic diseases in Polish urban population cannot be ignored. The association may be not so straightforward and therefore there is a need of further studies to identify additional factors that may modify and confound the association.

The public health response to chemical incident emergencies: development of toolkit

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Background

There is a need to strengthen and enhance the capability of responding to chemical incident health threats in a timely and co-ordinated manner. To address this, the EU PH Programme has funded a project, the Public Health Response to Chemical Incident Emergencies Toolkit, to provide guidance and training to public health care professionals.

Objectives

Material provided will enable public health professionals to respond effectively to chemical incidents and deal with the subsequent public health consequences.

Results

A toolkit for the public health response to chemical incidents and emergencies that provides relevant source material to enable ph professionals to improve their knowledge in areas relevant to chemical incident planning, preparedness, response and recovery. The toolkit will comprise fact sheets, scenario cards, sample questionnaires, guidance for conducting training exercises and information for general public. A training manual and supporting material to raise competence in dealing with chemical incident preparedness and response will contain source material, training modules and guidance on how to construct and conduct training courses that address the users own specific needs.

Establishing a network of experts capable of providing advice and guidance on chemical incident management and delivering appropriate training tailored to meet the needs of individual Member States.

Conclusions

The Chemical Incident Emergencies Toolkit provides training for public health professionals in order to limit the harm caused to people and the environment following a chemical accident.

Observatory for environmental and social responsibility in health organizations

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Some investigations suggest that corporate responsibility can, under certain conditions, stimulate innovation, investment or trade, and thus competitiveness. The potential for corporate responsibility clusters has been identified as creating competitive advantages that arise through interactions focused on the enhancement of corporate responsibility between the business community, labour organizations and wider civil society, and the public sector.

The Observatory for Environmental and Social Responsibility in Health Organisations (OMARS) is a pioneering initiative in the health sector, as defined under the current requirements of continuous improvement. OMARS emerged in 2007 as a multi-stakeholder organization in which some Spanish public hospitals, the Foundation for Health Research of Eastern Andalusia, and a group of health sector provider companies participate. OMARS has become a platform for search and transfer of knowledge of good environmental and socially responsible practices for implementing in the health sector. The aim of this paper is to present the main lines of work done by OMARS.

OMARS' current work focuses on four major projects: the newsletter of good environmental practices, the contribution of telemedicine to reduce CO₂ emissions, reduction of surfactants in hospital wastewater, and the replacement of plastic garbage bags by bags made of potato starch or corn. As an outcome of the dissemination of good environmental practices by OMARS, in 2008 Hospital Universitario Virgen de las Nieves has launched a programme of Healthy and Organic Food by incorporating 'BIO-menus' in breakfasts and picnics. The new menus are made entirely of foods from organic agriculture and ecological livestock (organic food).

Through collaboration between public and private organizations, OMARS has emerged as an effective tool for the dissemination of innovative environmental practices in the health sector. This observatory reflects the innovative character of the Andalusian Public Health System. As in the productive sector, innovation and technological change do not come solely from the investigation, but the phase of experimentation and dissemination of successful practices is also crucial to harnessing the positive externalities generated by any type of innovation.

Community action for health in Catalonia, Spain; the case of the environment

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Issue/problem

Catalan Health Plan is the main instrument for health policy in Catalonia, in which health and risk-reduction targets and the strategies to achieve them are defined in 2010. Catalan Government is responsible for: water for public consumption, wastewater reuse, prevention on legionellosis, air, youth hostels, campsites, plagues, chemical products and

emerging risks in healthcare sector. Different tools for surveillance, monitoring and managing environmental health risks are developed according to European strategy and objectives.

Description of the problem

Targets are related to: (i) water for public consumption, (ii) waste water recycling, (iii) urban plagues control, (iv) legionellosis prevention. To tackle them the main strategic proposal was the creation of the Health Protection Agency (HPA) together with the promotion of self-control by the economic agents under the principle of risk detection and evaluation. Other interventions are: information to the population and health promotion, surveillance and risk control, assessment and legal rules elaboration. The complexity of the matters requires a multisectoral approach working in net. The aim is to ensure health and hygiene standards are met to avoid any outbreak of illness.

Results (effects/changes)

Nineteen targets were defined. Twelve (63%) seem to be achievable in the year 2010 with current trends, while four (21%) showed a negative evolution. Worst results are obtained in targets related to outbreaks but those related to inspection will be achieved. In 2008, own quality control system plans of the entities supplying drinking water for human consumption (4299 inspections), high-risk legionellosis installations (3214), youth hostels (447), campsites (163) and plagues control (1434) were supervised.

Lessons

The creation of the HPA and its decentralization at the local level make easier all public health functions. HPA has been positive in achieving targets related to inspection but not in reducing outbreaks. Better work coordination among all the agents and internal and external communication with an improvement of the outcome is expected. Knowledge and experience from local and autonomous agents improve public and protection health services since they suit better to the real needs of the population.

Analysing human ecology indicators for 2008 at the local level in Quebec, Canada

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In order to monitor its public health objectives and to detect emerging problems, the Public Health department of the Quebec region (Capitale-Nationale) has produced a extensive Health Portrait.

Its two main objectives are to provide a large range of data about determinants of health, health status and consequences of health and to make comparisons in time and space. It was conceived as a reference tool to assist the regional health officers and planners in the decision making process in regard of establishing area based targets. It served as the basis for the second Regional Report on Health.

Two documents, one presenting data and the other focusing on analysis, have been published in 2008. The second document summarizes the main results in sixteen sections covering the determinants of health (social, economic and physical environments, lifestyles, behaviours and risk factors, organization of health care) the main health problems (chronic and infectious diseases, morbidity, mortality, disability) and different life cycles and populations (gender differences, perinatal and maternal health, youth, workers, seniors). It is based mainly on the 200 indicators described in the first document. When possible, comparisons are made with other Canadian urban regions. Special attention was given to present neighbourhood indicators in a format accessible to a non specialized audience.

Globally, results are encouraging: health expectancy his growing and tobacco consumption is falling as well as deaths

by cardio-vascular disease but cancer has become the first cause of death. Many disparities are observed.

Communicating human ecology data for 2008 to local communities in Quebec, Canada

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In order to monitor its public health objectives and to detect emerging problems, the Public Health department of the Quebec region (Capitale-Nationale) has produced an extensive Health Portrait.

Its two main objectives are to provide a large range of data about determinants of health, health status and consequences of health and to make comparisons in time and space. It was conceived as a reference tool to assist the regional health officers and planners in the decision making process in regard of establishing area based targets. It served as the basis for the second Regional Report on Health. Two documents, one presenting data and the other focusing on analysis, have been published in 2008. The first document presents in detail the data used. It is based on 200 indicators using 60 distinct sources, each presenting data for Quebec, the 18 health regions and by Quebec region health districts. When possible, comparisons are made with other Canadian urban regions. To facilitate access to the data, the information for each indicator is presented on two contiguous pages. There is a brief description of the data, charts, tables, sources and relevant references. Technical notes and principal limitations are also included. Statistical tests are used in most cases when comparing regions. Charts and maps are used to illustrate spatial distribution of social environment and health indicators at the local level.

A multi stakeholder interpretation of future urban health in the Netherlands

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Background

To integrate the policy fields of public health, environment and urban development understanding of each others conceptualization of health is an important first step. A key stakeholder dialogue about future sustainable urban development was organized. Three tracks, Health and Safety, Liveability, and Energy, intertwine in exploring robust policy options. This article focuses on the Health and Safety track: which health concept did participating stakeholders use, and what does this conceptualization mean for healthy urban development?

Methods

Using a participatory backcasting approach, two workshops with key stakeholders were organized. First workshop participants designed a future ideal healthy city. In the second workshop backcasting will bring about robust policy options for today. Stakeholders are scientists of various disciplines, policy makers, and representatives of non-governmental organizations, interest groups and private parties from the urban health field.

Results

Analysis of the first workshop revealed that participants seem to prefer the World Health Organizations health concept. This includes 'complete physical, mental and social well-being' apart from the 'absence of disease'. Some participants even place health close to concepts of happiness. Participants agreed that urban design should invite people to mingle and be physically active. Differences between

ethnic and social-economic groups only played a minor role in the ideal city discussions. This might be explained by the fact that participants focused on their own peer group, being well educated professionals. Finally, long-term trends (technology, ageing population) were only briefly touched upon.

Conclusion

Sharing the same concept of health holds promising prospects for increased integration in the urban health field. Focus should mainly be on quality of the living environment, mingling opportunities and physical activity. Special attention should go out to groups outside the participants' peers at the second workshop. Workshop procedures might be adapted to include more long-term future trends in the ideal healthy city.

The relation between the environment and daily steps of the residents in Czech regional towns

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Background

Optimal level of physical activity (PA) is one of the important determinants of health. To increase PA level in adults so that they achieve healthy lifestyle habits is a challenge to worldwide research. Residents of regional towns form a specific group of interest to this research due to the high density of population, network of facilities, services and shops in these towns and the essential part of gross domestic product they produce. Purpose: To determine if the environment influences daily number of steps of the residents in Czech regional towns more than psychosocial and biological variables.

Methods

Daily steps were measured in randomly selected females ($n=376$) and males ($n=334$) aged 18–69 years using pedometer Yamax SW-700 on seven continual days during spring and fall 2007. The environmental, psychosocial and biological variables were identified using the ANEWS questionnaire. Correlation and regress analyses were used to determine the strength of association between examined variables and the daily steps.

Results

Both females and males, independently of age and body mass index, assess the environment of the regional towns very safe and friendly for walking and cycling. The participation in organized PA is significantly associated with daily steps in both females ($r_s=0.18$, $P<0.01$) and males ($r_s=0.11$, $P<0.10$). Further factors significantly associated with daily steps in females are lower age and pleasant neighbourhood surroundings ($P<0.10$) and in males pleasant neighbourhood surroundings and non-smoking. Household income, owning a car and driving license, living in a family with or without children are factors that do not influence daily steps in participated adults.

Conclusion

We found out that the pleasant environment is the factor supported healthy PA habit—walking of residents of regional towns most. The creation or at least maintenance of environments friendly for walking and cycling are needed. There is necessary to secure non-expensive organized PA which should help to increase PA of residents so that they can achieve healthy lifestyle habits.

Funding

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Environmental protection education—an imperative since the earliest age

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Background

Taking into account the globalization perspective, the Romanian Ministry of Education, Research and Innovation considers the youngsters' ecological education has become nowadays more necessary than ever. The ecological education aims the development of the senses of responsibility for the environment preservation since the earliest age.

Subjects and methods

We included in the study 168 children aged 6–7 years from urban and rural kindergartens. We used an educational game consisting in four boards each with eight pictures representing non-ecological activities and in 32 cards with images indicating the ecological activities that correct the non-ecological ones. There were pictures regarding cleanliness keeping, vegetation protection, energy saving, animals and plants protection, air pollution, and noise. The children were asked to associate the two series of pictures and to explain why the pictures on the boards represent 'the bad behaviours'.

Results

Only seven children (4.16%) registered difficulties in associating the pictures with ecological and non-ecological behaviours. No child offered correct explanations for all the 32 items of the game. The majority of the incorrect explanations were about the energy saving (24.49%) and the vegetation protection (12.80%)—statistically significant differences urban vs. rural for $P < 0.05$. Most frequently, the wrong explanation meant: 'I do not have to do this thing because otherwise my parents will ground me.' All children knew it is a bad attitude to throw the garbage on the grass or on the streets; about 95% of them had never heard about recycling old paper or using biodegradable bags.

Conclusions

The results of our study show it is useful to start studying the influence of the human activities on the environment since the kindergarten. The knowledge, the attitudes and the motivations the children get this way could contribute to solving the present and future environmental health issues.

Air pollution impacts on respiratory diseases among school children in Zasavje, Slovenia

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Background

Outdoor air quality has important impact on human health. Levels of some air pollutants such as particulates and sulphur oxides have consistently been high in Zasavje. We initiated this study to estimate the global prevalence of acute and chronic respiratory diseases among schoolchildren in Zasavje.

Methods

Data were collected during 2008 in a cross-sectional study with final sample including 1127 schoolchildren, aged 6–12 years. Data on respiratory diseases, socio-demographic and environmental determinants and exposure to air pollution were collected using a questionnaire. Zasavje was divided according to air pollution level in three areas: low pollution level area (LPLA), moderate pollution level area (MPLA), and high

pollution level area (HPLA). Logistic regression was used in statistical analyses.

Results

The global prevalence of chronic respiratory diseases was 3.5% in LPLA, 6.5% in MPLA and 8.9% in HPLA ($P = 0.019$). After adjustment for the effects of confounders, significantly higher odds ratio (OR) for chronic respiratory diseases were, in comparison to LPLA, registered in HPLA (OR 2.5; $P = 0.018$). The global prevalence of acute respiratory diseases was 8.2% in LPLA, 12.5% in MPLA and 15.0% in HPLA ($P = 0.024$). After adjustment for the effects of confounders, significantly highest odds for acute respiratory diseases were in comparison to LPLA registered in MPLA (OR = 2.1; $P = 0.005$).

Conclusions

The study confirmed significantly higher prevalence of respiratory diseases in schoolchildren living in MPLA and HPLA in comparison to LPLA. The situation regarding air pollution in Zasavje is very complex and difficult to solve. In future, it is important to find the solutions how to ensure effective and sustainable cross-community cooperation to reduce the environmental problems harmful for health.

Essential oils as natural air disinfectants

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Air is regarded as one of the way of microbiological contamination. Pathogenic microorganisms are present in the air of hospital wards or any other rooms with infected patients. The elevated number of microorganisms in the air samples taken in public institutions and offices is also noted. Essential oils commonly known from their antimicrobial activity are supposed to be good air sanitizers. Aerosols with the oils can be used as air fresheners as well as air disinfectants. The aim of the study was to check the ability of 15 essential oils to eliminate chosen bacteria and fungi from both aqueous and gaseous environments under laboratory conditions.

The following essential oils have been used: seven fir oils of *Abies* sp., three oils of *Artemisia* sp. and *Achillea* sp., *Chamonilla* sp., lavender, lemon, tea tree. The oils action against bacteria *E. coli*, *P. aeruginosa*, *B. subtilis*, *S. aureus* and fungi *Candida* sp., *A. niger* was tested. Oils minimal inhibitory concentrations (MICs) in aqueous solutions were estimated by bioimpedimetric method. Their activity in vapour phase was checked by microatmosphere method and was expressed as a minimal inhibitory quantity (MIQ). Results were analysed using a three-way ANOVA test at a confidence level of $P < 0.05$.

In aqueous solutions, the essential oil of fir *A. sibirica* and tea tree oil expressed the highest antibacterial and antifungal activity (MIC 0.4–1 µl/ml and 0.2–05 µl/ml, respectively). There were no statistical significant differences ($P < 0.05$) in the other fir oils' activities. The lowest antimicrobial effectiveness was estimated for *Achillea* and *Chamonilla* oils (MIC 5–30 µl/ml). In a vapour phase under laboratory conditions the most effective were the following oils: fir *A. sibirica*, tea tree and lavender (MIQ 0.2–10 µl/ml).

Among 15 essential oils only three have been proved to be the most suitable for air disinfections. They express the highest activity against both pathogenic *P. aeruginosa*, *S. aureus*, *Candida* sp. and tested saprophytic microorganisms in aqueous and gaseous states. It is possible to use the aerosols with essential oils as supporting sanitizers in hospitals and any other public places. To find the optimal doses of the oils for aerosol composition the additional test have been undertaken.

Exposure to particulate matter in smoking and non-smoking sections of pubs in southern Poland

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Background

Very few studies in Poland are focused on indoor air quality in public places like restaurants and pubs. Environmental tobacco smoke (ETS) is a well-known indoor air pollution and a significant source of fine particulate matter PM_{2.5} in indoor microenvironments. The new bill of complete smoking ban in all public places including hospitality venues is currently under consideration in Polish parliament. The aim of the study was to monitor exposure to PM_{2.5} in smoking and non-smoking sections in Polish pubs.

Methods

Concentrations of tobacco-specific fine particulate matter (PM_{2.5}) were monitored in thirteen pubs located in southern part of Poland during winter season. PM_{2.5} concentrations were monitored during one hour in smoking and non-smoking sections using portable DustTrak monitor (TSI Inc., USA). The Wilcoxon matched pair test was used to compare pollutant concentrations in smoking vs. non-smoking sections ($P < 0.05$).

Results

Average 1-h PM_{2.5} concentration in smoking sections was $3.59 \pm 5.31 \text{ mg/m}^3$ and varied from 0.52 to 20.6 mg/m^3 . Average 1-h PM_{2.5} concentration in non-smoking sections was $1.01 \pm 0.84 \text{ mg/m}^3$ and varied from 0.16 to 2.88 mg/m^3 . The highest temporary PM_{2.5} concentration of 72.9 mg/m^3 was found in one pub located in cellar storey with volume of 60 m^3 , 13 smokers and no air-conditioning. Average PM_{2.5} levels were significantly higher in smoking than non-smoking sections.

Conclusions

High exposure to PM_{2.5} was found in both smoking and non-smoking sections of Polish pubs. Detected levels of PM_{2.5} exceeded the new limit (0.03 mg/m^3) from 5 to almost 700 times. Separation of non-smoking from smoking sections in Polish pubs do not protect non-smokers from exposure to environmental tobacco smoke.

Air particulate monitoring and geostatistical analysis: a new approach to risk assessment in clean room

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Background

A microbiological contamination in drugs preparation could increase hospital infection incidence and mortality rate. While most of recent studies are interested in stem cell or antineoplastic agent production, this work concerns a clean room commit in preparation of parenteral nutrition bag. This study aims to underline how classical statistical analysis and geostatistical iso-values maps can help to understand the potential hazard in drug preparation related to the environmental pollution.

Methods

The particulate count was carried out by a portable laser particle counter (0.3–25.0 μm sensitivity), according to the ISO 14644 and GMP. The monitoring was made from the beginning of a hospital clean room activity, twice a year for 3 years, in several conditions: 'At rest', 'Operational' and 'Recovery Time'. Particles with diameter $\geq 0.5 \mu\text{m}$ were sampled by probes positioned at 130 cm far from the ground, at bags filling height.

Results

Results from classical statistical analysis show a gradual increase of particles greater than $0.5 \mu\text{m}$: at rest conditions particles average was 716 particle/m^3 (95% CI 671.78–760.22) in the first monitoring (March 2006), but it reaches $29.228 \text{ particle/m}^3$ (95% CI 27 395.73–31 060.27) in June 2008 and then it decreases to $1.174 \text{ particle/m}^3$ (95% CI 1101.12–1246.88) in the last control. Through spatial data modelling techniques (geostatistical analysis), maps of the particle's diffusion expected values show that the highest number of particles is concentrated near the clean room entrance, while the working area maintains a lower concentration of particles (Indicative Goodness of Fit (IGF) = 0.0667; K-order Rank = 1; Jackknife = 1.0016).

Conclusions

This study highlights the importance of a continuous environmental control to keep a clean room within highest security standards. Moreover geostatistical maps are of great importance because they allow to estimate the particles concentration over all monitoring area and not only where the samples are performed, other than showing clearly the particles distribution in the environment.

Fine particulate air pollution association with daily circulatory mortality in Madrid, Spain (2003–05)

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Background

Although epidemiological studies about fine particles (particulate matter with aerodynamic diameter $\leq 2.5 \mu\text{m}$ [PM_{2.5}]) have shown adverse respiratory health effects, evidence on the cardiovascular health risks associated with short-term exposure is limited. The objective of this study is to analyse and quantify the influence of PM_{2.5} over daily circulatory mortality in Madrid.

Methods

The dependent variable was a time series of daily number of circulatory deaths occurred in Madrid from 1 January 2003 to 31 December 2005. The causes analysed were: all diseases of the circulatory system (ICD-10: I00–I99), cerebrovascular diseases (I60–I69), acute myocardial infarction (I21) and other ischemic heart diseases (I20, I22–I25). The independent variable was daily records of PM_{2.5} mean concentrations. PM₁₀, NO₂, NO_x, SO₂, O₃ and pollen mean concentrations; seasonality, trend, noise, temperature and flu epidemics were controlled. Poisson Regression Models were performed to calculate the relative risk (RR) and the attributable risk (AR).

Results

We found a linear relationship without threshold between PM_{2.5} concentrations and daily circulatory mortality in all causes analysed. There were significant associations: RR (for an increase of $10 \mu\text{g/m}^3$ in PM_{2.5} mean concentrations) was: for all diseases of the circulatory system: 1.022 (95% CI 1.005–1.039) in lag 2 (increase in PM_{2.5} mean concentrations 2 days before), and 1.025 (95% CI 1.008–1.043) in lag 6; and specifically for acute myocardial infarction: 1.066 (95% CI 1.032–1.100) in lag 6. The AR was 2.155, 2.472 and 6.213% respectively.

Conclusions

PM_{2.5} concentrations are an important risk factor for the daily circulatory mortality in Madrid. In a Public Health setting, the implementation of measures to reduce the concentrations of PM_{2.5} seems to be a necessity in this city.

Exposure to outdoor air pollution and impact on cardiovascular and respiratory mortality in Belgium

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Background

Air pollution by particulate matter (PM) shows a consistent association with mortality. We performed a health impact assessment in order to estimate the impact on mortality in the southern part of Belgium if a reduction of levels of particles less than 10 µm in size (PM₁₀) could be obtained.

Methods

Methodology has been developed by the French Institute for Public Health Surveillance. We used exposure-response functions to calculate preventable cardiovascular and respiratory deaths in the general population, attributable to a cumulative short-term exposure of PM₁₀ up to 40 days above the WHO reference level of 20 µg/m³. The study area consisted of the two cities Charleroi (±200.718 inhabitants) and Liège (±185.624 inhabitants). Exposure data and cause-specific mortality data were available for the years 1999 and 2004. For the estimation of the exposure, the RIO-CORINE interpolation technique was adopted and PM₁₀ population weighted average concentrations were calculated.

Results

Mean yearly PM₁₀ concentrations for 1999 were 33.8 µg/m³ for Charleroi and 38.3 µg/m³ for Liège. In 2004, these concentrations were 31.4 µg/m³ and 38.4 µg/m³, respectively. Attributable cardiovascular mortality was 10.5 and 15.4 per 100 000 inhabitants in Charleroi and Liège in 1999; and 8.1 and 13.5 in 2004, respectively. Attributable respiratory mortality was 7.9 and 12.4 per 100 000 inhabitants in Charleroi and Liège in 1999; and 6.6 and 11.0 in 2004, respectively. These results did not differ significantly between the two cities or study periods. For the two cities combined, these figures accounted for 3.18% of the cardiovascular mortality in 1999 and 2.98% in 2004, and for 6.70% of the respiratory mortality in 1999 and 6.32% in 2004.

Conclusions

Current levels of air pollution in Belgium have a considerable impact on public health. The impact is twice as big for the respiratory mortality as compared with cardiovascular mortality.

Detection and monitoring of toxigenic cyanobacterial blooms in selected Polish water bodies

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Toxic cyanobacterial blooms pose a serious threat for holidaymakers. Therefore the necessity to carry out monitoring to enable appropriate identification of health risk is underlined by Directive 2006/7/EC of the European Parliament concerning the management of bathing water quality. Additionally, WHO recommended three alert levels for safe use of recreational waters. Therefore, the main objective of the present study was early genetic identification of toxigenic cyanobacteria responsible for microcystin or cylindrospermopsin production in two water bodies: Bytynskie Lake and Jeziorsko Reservoir. Additionally the monitoring of microcystin toxicity in selected water bodies was performed.

Research was carried out in two shallow, eutrophic Polish water bodies, known as popular recreational sites, situated in Western and Central Poland. Samples for DNA and toxicity analyses were collected in summer 2007 and 2008 in Bytynskie

Lake and Jeziorsko Reservoir, respectively. The presence of toxigenic cyanobacteria in water bodies was studied using *mcyE* gene (809–812 bp), involved in microcystin biosynthesis, and *cyrJ* gene (578 bp), involved in cylindrospermopsin production, by PCR (Polymerase Chain Reaction). Toxicity of microcystin was established by PPIA (Protein Phosphatase Inhibition Assay).

Cyanobacteria with the dominance of *Planktothrix agardhii* or *Microcystis aeruginosa* (above 60% in both water bodies) were detected during whole monitoring period. The presence of *mcyE* gene in water samples indicated on potential to produce microcystin. The maximum microcystin toxicity was 26.93 µg/l in Bytynskie Lake and 2.79 µg/l in Jeziorsko Reservoir. Additionally in 50% of samples from Bytynskie Lake, the PCR revealed the presence of *cyrJ* gene, which could indicate on the appearance of toxigenic *Cylindrospermopsis raciborski* in studied lake.

The toxicity analysis showed that in both lakes the danger emerging from microcystin occurred. Second Alert Level (>20 µg/l of microcystin), found in Bytynskie Lake, may indicate on the moderate probability of adverse health effect. In this case the irritative or allergenic effect on exposed people can appears.

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Regional disparities in Spanish Water Policy

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Spain managed to dissociate the relation between fresh water extraction (3%) and economic growth (7%) in the last two decades. However, this economic growth has also led to an increase in environmental deterioration, with an important negative repercussion in public health. The deterioration is partly reflected in the low level of wastewater treatment. Numerous investigations have shown that water quality affects public health. Therefore, the quality of water should be the same in all territories of a country. Statistically significant differences in Spain have been verified regarding some variables that determine water quality. Regional differences of these variables could be regarded as a source of divergence in population health.

In this article we analyse the evolution of the observed regional differences. Seven variables related to water quality have been studied: treated wastewater, treated wastewater disposal, reclaimed wastewater, water supplies, household water supplies, water supplies for other uses, and the percentage of water lost in distribution. The Spanish National Institute of Statistics is the source of data and the time period covered is 1996–2006. Besides the descriptive analysis of the variables, we apply the concepts of beta and sigma convergence, which both derive from the economic literature related to economic growth.

The results show that all variables demonstrate beta-convergence. In some cases the correlation between the initial values of the variables and their rate of change in the period studied is very weak (treated wastewater, water reuse, water supply to households, and losses in the distribution). Fit functions are statistically significant in three of the seven variables tested (discharged water, water supplies, water supply for other uses). Although beta-convergence is observed in all analysed variables, dispersion diminution of regional values occurs in only four variables (water discharge, water supplies, water supply for other uses, and losses in the distribution).

Despite the convergence, there are also substantial differences among regions. Consequently, further development is needed in consolidating the process of reducing regional disparities

in water quality as a complementary way of reducing inequalities in health.

Turning the tide—a public health response to flooding

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Concerns over climate change and experience of severe weather episodes in the UK have led the Health Protection Agency to develop risk assessment tools and guidance on flooding.

A number of severe weather episodes, notably the Boscastle flood, Cornwall in 2004 and the Gloucestershire Floods of 2007 have affected the South West region of England. On each occasion, the impact on public health has been varied and far-reaching.

Climate change is likely to affect all stages of the water cycle, from patterns of rainfall to changes in the intensity and severity of major storms. Efforts to reduce its global impact are important, but it is likely that the UK Health Protection Agency (HPA) will have to deal with some impact on health. The Agency works to identify, prepare for and respond to health threats and set standards for health protection.

In response to global concerns and local needs the HPA has developed a range of resources, which include risk assessment tools, guidance and advice for practitioners in health protection, the public health community and general public. The presentation will outline the lessons learned by the Health Protection Agency from flooding events across the UK. It will describe its role in addressing climate change and describe the tools that are being made available to support health professionals manage the effects of natural environmental hazards.

Bathing water quality information system in Poland

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Rules according creating, functioning and conducting monitoring of bathing sites (BS) in Poland are regulated by national law and guidelines of Chief Sanitary Inspector. During each year before the bathing season start local units of sanitary inspection (SI) updates lists of BS to be checked according their water quality.

In 2008 monitoring was held by 263 local units of SI. It covered 1299 BS in Poland (this is 92% of all BS in SI records), consist of 1173 inland and 126 seaside BS, and. Majority of BS are unorganized which is 888 locations. Organized BS usually have appropriate infrastructure like clearly marked entries, showers, lavatories, live-guards, etc. Unorganized do not have such infrastructure, they are in most cases used occasionally by people living in the neighbourhood.

In BS monitoring analysis are conducted at least once per two weeks. Validated results are collected in local data bases and then transferred to a higher level of SI. In the end they all are put to one national data base. In this form they can be used for preparing reports for various institutions (national and international). This is also source for reports for polish public. A growing interest is observed lately of public and medias in access to reliable and up-to-date information concerning bathing water quality in Poland, especially during summer season. It is vital to distribute such information quickly and using easy accessible medias, like Internet. Therefore bathing water quality service was created in 2006. This initiative was taken by combined work of National SI and National Institute of Public Health—National Institute of Hygiene. This service presents quality of each BS in tables. Additionally, all BS are

grouped in regions depending of their locations. Presently this service is during reorganizations which will result in more Web-GIS oriented approach.

This work presents spatial and cross time evaluation of BS water quality in 2008 season.

Assessment of an environmental pollution with asbestos in Poland

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Poland has no asbestos deposits and in the past asbestos used to be imported. The total consumption of asbestos since 1960's to 1993 is estimated to be about 1.4 million tonnes; including about 8500 tonnes of amosite and about 86000 tonnes of crocidolite. Since 1985, crocidolite asbestos is no longer used in Poland.

Imports, production and trading of asbestos and asbestos-containing products has been banned in Poland since 1997. The parliamentary act prohibiting the use of asbestos products has solved the problem of the occupational exposure of the workers employed in the materials processing industry and prevented use and storage of the products. But the problem of enormous quantities of asbestos and asbestos-cement products in the communal environment remains to be solved yet.

Under the Government Programme 'Elimination of Asbestos and Asbestos-Containing Products Used in Poland' the measurements of asbestos dust concentrations were carried out. The samples were collected from 1259 points, from all Poland territory (two to three samples from each point). Analysis revealed wide range of asbestos fibres concentration with mean value 549 f/m³ (95% CI 404745). In 2% of measure points very low, undetectable concentrations were found. About 20% measure points had result above 1000 f/m³.

The areas of particularly high pollution with asbestos were:

- areas affected by the asbestos plants, and asbestos-cement plants in particular
- areas where large quantities of asbestos-cement were used for building construction
- areas where asbestos products were used for farmstead applications
- illegal asbestos-cement waste dumping sites.

Asbestos exposures and laryngeal cancer: an overview of current epidemiological evidence

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Background

Laryngeal cancer is the second most common respiratory cancer after lung cancer in the world. Approximately 160 000 new cases occurred in 2002, 40% of which were in developed countries.

Objective

The objective of this article was to provide a brief overview of the evidence relating exposure to asbestos (or any employment in an occupation or industry where asbestos exposure was known to occur) to the risk of laryngeal cancer.

Methods

Data sources were MEDLINE from January 1970 to April 2009, title in the field. Search terms included: asbestos exposure, laryngeal cancer, cohort or case-control studies, and occupational exposure. Book chapters, monographs, relevant news reports, and Web material were also reviewed to find relevant articles and reviews.

Results

The association between asbestos exposure and cancer of the larynx has been examined in many cohort and case-control studies. The effects of occupation on the risk of laryngeal cancer have been difficult to study, because of the powerful relationship of this cancer with tobacco smoking and alcohol consumption. In many cohort studies on laryngeal cancer in asbestos-exposed workers risk information on smoking habits and alcohol use are limited and unclear. On the other hand, occupational cohort studies reporting better documented exposure information than alternative case-control approach of the general population. The results of the literature review show that same epidemiological studies did not support a causative link between asbestos exposure and laryngeal cancer, whereas some come to the opposite conclusion.

Conclusions

Laryngeal cancer generation is conditioned by many synergic factors. The relation between asbestos exposure and increased incidence of laryngeal cancer needs future research efforts, take into consideration all possible sources of confounding: social class, diet, tobacco and alcohol use.

Causes of extra death during heat waves in Slovenia

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Background

Increasing greenhouse gas emissions and decreasing CO₂ recycling changed the atmospheric temperature, quantity and location of precipitations and caused more frequent and extreme weather events, like heat waves. In August 2003 heat wave in France claimed about 15 000 extra deaths, and became a great public health concern in Europe. In Slovenia extra deaths during heat waves have not yet been assessed nor their causes of death analysed. The objective of a research was to calculate the number of extra deaths and to find out the underlying causes of death.

Methods

For calculating observed and expected deaths, during heat waves lasting for 10 or more days in the period 2000–07 in Slovenia, Poisson distribution of rates was used with 95% CI.

Results

Two hundred and seventy-one extra deaths were found, 60% of them were among women. The majority of victims were aged 70 years or older. In leukaemia, lymphoma, prostate, urinary tract, and lung cancer the extra deaths already began to occur after the age of 50. 89 people died due to cardiovascular diseases (stroke, ischaemic heart disease, hypertension) with greater number among women. The second most important cause was cancer, almost one third died due to lymphomas and leukaemia. Cancer was followed by injuries and poisonings, majority in men. Diabetes mellitus was the fourth cause, followed by diseases of pulmonary and gastrointestinal systems, mental disorders and nervous diseases.

Conclusions

Heat waves became an important issue in Middle and South Europe. The demographic and health characteristics of their victims are needed for prevention strategies and planning. Analyses in Slovenia pointed out that 10–15% of extra deaths can be expected during long lasting events, and that the age of victims is not as important as the underlying diseases, especially the ones concerning blood volume and water equilibrium.

Mitigation of impacts of climate change in Slovakia—a pilot study on policy maker's preparedness and indicators

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Background

The potential impacts of climate changes are relatively well known. A key challenge is to create a system capable to respond to potential threats. Such system must include educated policy makers and a set of well-defined indicators. The aim of this article is to evaluate the preparedness of policy makers to deal with these issues and to pilot-test a potential indicator of the impact of climate change on health in Slovakia.

Methods

We conducted two studies. The first study assessed the impact of heat waves and on human health using number of health emergencies in a Slovakian region as an indicator. The second study analysed the knowledge, attitudes and practice of municipal policy makers in the field of climate changes and their impact on health.

Results

The results of the first study showed that there was an increase in number of health emergencies during heat waves in the concerned region. Although a clear definition of data sources and data sharing channels is necessary, the fact that the data on temperatures and on health emergencies is routinely collected makes this indicator suitable to be used. In the second study, we interviewed 18 local politicians in Slovakia. We found fair knowledge on general principles of impacts of climate changes but somewhat limited knowledge on specific impacts on health and on possible precautions they could impose as policy makers.

Conclusions

Education of policy makers to understand the mechanisms of impacts of climate change on health must be enhanced to effectively mitigate them especially on local level. A well-prepared and suitable preparedness and rapid response system is crucial. Health emergencies appear to be suitable to be used as indicator of impact of climate change on health in Slovakia.

Environmental noise indicators in urban settings: cross-sectional study in Skopje, 2006 year

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Background

Environmental noise is one of the major environmental hazards in developed and developing countries and its adverse effects pose a serious public health problem. Aim of the study is to determine indicators for noise exposure in Skopje, average equivalent sound level for day time L_{day} and average equivalent sound level for night time L_{night} , and to evaluate indicators for noise effects, annoyance and sleep disturbance in adult population.

Methods

Noise measurements in 35 measurement points in Skopje with standardized procedures and equipment and determination of L_{day} and L_{night} . The sample was chosen of the exposed adult population, of the age of 18–65 years and the subjects were directly interviewed with questionnaire for personal evaluation of annoyance and sleep disturbance.

Results

Average value of L_{day} was 62 ± 6.45 dBA, and L_{night} was with average value 56 ± 6.52 dBA. Total number of subjects was 510, with average age 37 ± 14 years, 13% of them had reported high level of annoyance, 33% had moderate level of annoyance,

8% had reported high level of sleep disturbance and 19% had moderate level of sleep disturbance. Noise exposure to $L_{day} > 65$ dBA caused 2.5 times bigger risk (OR 2.51; 95% CI 1.38–4.54) for annoyance compared with population exposed to $L_{day} < 55$ dBA. Exposure to L_{night} above 56 dBA for two times (OR 2.21; 95% CI 1.05–4.674) significantly increased probability for sleep disturbance, compared with subjects of the reference group exposed to $L_{night} \leq 45$ dBA.

Conclusions

The level of annoyance and sleep disturbance in adult population is similar like in the developed countries. Noise exposure above limit values established in national policies caused significant risk for annoyance and sleep disturbance in exposed population. Noise limit values for prevention of adverse health effects should be considered in space planning in urban centres and implemented in public health policies.

Health risk assessment of using sunbeds in two Slovakian counties

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Objectives

To analyse and compare the compliance of the sunbeds with the technical standards in two Slovakian counties.

Methods of analysis

Measurements were conducted using certified UV radiometer 206, PRC Krochmann GmbH. We evaluated the data using the correction of measurements uncertainty (–4%: UVA and +10%: UVB). According to the standard the ratio of UVB/UVA radiation should not exceed the limit of 2.2 (Eer, B/Eer, $A \leq 2.2$). In the study we included every sunbeds which was under the hygienic control of the public health authority during 2007 and 2008. In both counties there was a total of 32 salons with 39 sunbeds (29 horizontal and 10 vertical type).

Results

In 17 (44%) out of 39 of sunbeds in both counties, the limits of the UV radiation ratio (UVB/UVA) was exceeded. In Banská Bystrica county, the limit was exceeded in 12 appliances out of a total of 28 (43%) and in Brezno county in 5 sunbeds out of 11 (45%). Of the 17 sunbeds, 12 (71%) not meeting the standards were horizontal and five vertical. In case the standards were not met, the public health authority ordered immediate improvement measures. In all cases, measures were taken to ensure that the radiation ratios were within the required standards.

Conclusion

Excess exposure to UV radiation in sunbeds especially when combined with natural exposure can have adverse impacts on health. The study showed that most sunbeds do not meet the required standards. Therefore there is a need for a strict control of UV radiation in tanning salons.

Formaldehyde: environmental contamination in the operating wards

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Background

In hospitals, formaldehyde is mainly used in higher concentration solutions to fix tissues and to preserve anatomical parts. The IARC, in 2004, has classified formaldehyde in Group 1 of carcinogens, carcinogenic to humans. However,

formaldehyde is still irreplaceable for some sanitary uses in operation wards.

Methods

In this study, we evaluated the diffusion of formaldehyde in a few operating rooms, using geostatistical spatial data modelling techniques to identify sources, variability and distribution of air pollutants, in order to assess hospital staff exposure. For modelling formaldehyde diffusion, indoor air samplings were carried out in 22 operating rooms of two different surgical wards A and B in a hospital in Rome, by a transportable photoacoustic spectrometer 'Multi-gas monitor' with apposite software. Each measurement was performed throughout 22 surgical sessions. In the operating wards, two series of samplings were carried out: the first one during each surgical session in one sampling site near the anaesthetic machine; and the other one measuring formaldehyde concentration in 20 different sampling sites of the 'A' operating ward and 22 of the 'B' one. The probes were placed at about 130 cm above ground.

Results

In the first step, we detected different average concentrations of formaldehyde in surgical wards 'A' and 'B', 0.067 ppm (95% CI 0.066–0.067), max 0.14ppm, and 0.201 ppm (95% CI 0.199–0.204) max 0.46 ppm, respectively. In 16 operating rooms, we found concentrations that exceed the TLV-STEL Ceiling (0.30 ppm), although in the operating rooms formaldehyde should not be used at all. We carried out the second step of monitoring in order to create geostatistical spatial data maps to identify the contamination sources.

Conclusions

Linear geostatistical 2D and 3D iso-value maps of the Formaldehyde expected values show an evident contamination in formaldehyde storage site and in fixing tissues and anatomical parts area.

Linking among urban waste generation and recycling and socioeconomic patterns: comparative analysis in two Italian regions

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Background

The Eurostat data from 1995 to 2003, seem to relate an increase of richness, due to industrial development and living conditions improvement, with an increase in waste production. Each year in the European Community 1.3 billion tons of wastes are produced. In Italy, recycling and waste management policy is regarded as one of the most important environmental problems to be solved because of the important social and political issues apart from the technical aspects. This article aims at analysing different waste management methods in two Italian regions.

Methods

Simple linear regression was used in order to evaluate the linear relationship, the correlation between regional gross domestic product (GDP) trends or other economic indicators, and total urban waste production and recycling. In this work, the correlation was made between the Piedmont and Apulia. Data, ranging from 2002 to 2006, based on APAT and ISTAT statistics.

Results

We present preliminary results of our analysis. First, we have correlated the regional GDP per capita with the regional urban waste production. Results show $R^2 = 0.9519$ for Piedmont and $R^2 = 0.9395$ for Apulia, confirming a good correlation between the two parameters. Also correlation between Household final consumption expenditure (HFCE) and total production of waste give an $R^2 = 0.8747$ for Piedmont and $R^2 = 0.9864$ for Apulia, seems to confirm this meaning. On the other hand, by correlating GDP values and the rate of waste recycling we

have found a lower association ($R^2 = 0.6946$ for Piedmont and $R^2 = 0.0460$ for Apulia, respectively). It could be pointed out that there is no correlation between the two indicators for Apulia and this result appears to be an index of waste mismanagement.

Saturday 28 November, 13:00–14:30

Poster Session 13: Training and education

Teaching the European dimension of health promotion

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Background

The European Union promotes in many programmes the development of European Master Programmes. Since 2002 we offer the European Master in Health Promotion as a distance learning Master-Course. We collaborate in the European Master in Health Promotion (EUMAHP) Consortium together with the European Training Consortium (ETC) to further develop the 'European Dimension of Health Promotion' as a Module within our Master Programmes.

Objectives

In this article I would like to outline our strategies, how to teach the 'European Dimension' of Health Promotion.

Results

We developed in the last 7 years five different strategies to teach the European Dimension of Health Promotion:

- (i) Top-down: EU Health Promotion and Public Health Policies including an Expert Excursion to the EU in Brussels. As an Assignment students have to write a policy Assessment.
- (ii) Bottom-up: Together with the ETC Consortium we organize summerschools in Health Promotion, where students develop international Health Promotion Projects.
- (iii) Cross cutting: In all other Modules we address the 'European and International aspect e.g. environmental health and European environmental policies and strategies.
- (iv) Abroad: Students have to go for a study period in another European Country
- (v) Comparative research: The Master-Thesis must contain a comparative element.

Conclusions

After 7 years we look at many successful research-projects and our learning material is developed further. We integrate this knowledge in a Master on Intercultural and societal Health Care Studies in the Context of the Virtual Academy for Health.

Risk Assessment and Management—European Training Programme (Risk ASSETs)

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Within the EU there is a priority need to improve the availability of trained risk assessors for conducting consistent high quality assessments of health risks in accordance with EU policies and legislation, and to serve on EU risk assessment committees.

The Risk Assessment and Management—European Training Programme (Risk ASSETs) project aims to provide a comprehensive and concise training programme to address these gaps in risk assessment training to ensure consistency in

Conclusions

Our preliminary results literature highlighted the need to identify a framework to decouple waste generation from economic activity, so that economic growth will no longer lead to more and more rubbish.

the level of competency required, module content, form of delivery and qualifications to be obtained for risk assessors. This will include developing:

- a foundation course to provide a comprehensive understanding of the fundamental aspects of risk assessment and risk management (including piloting the course)
- course content for an intermediate and advance level training on risk assessment; and
- a proposed structure to enable the administration and coordination of the training programme, including ensuring adequate quality assurance and quality control.

The project proposes to undertake a review of existing training schemes and the needs of stakeholders and course participants and develop core competencies and a harmonized curriculum for risk assessment training throughout the EU. This will involve contacting stakeholders, running an international workshop and reviewing relevant material. Specific attention being paid to: toxicology, exposure assessment to chemicals, environmental and bio- monitoring, epidemiology, substances in cosmetics and electromagnetic fields.

This poster outlines the aims, objectives and workplan of the project with a view to engaging stakeholders as to the needs and requirements for risk assessment training throughout Europe.

Project: Equal opportunities for health: action for development

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Background

Education has proved to be one of the most effective investments in tackling the obstacles hindering the achievement of the right to health. Indeed, informed health workers can be effective opinion makers and 'global health advocates' to promote equity, justice, development and peace.

Objectives

- (i) To expand global health teaching at Medicine Faculties and improve quality and coordination.
- (ii) To make healthcare professionals accountable for promoting global health and health equity at all levels (including policy makers).
- (iii) To establish and strengthen strategic partnerships among universities, scientific societies, research and education centres, health institutions, non governmental organizations and public institutions to promote the definition of more fair and effective health policies.
- (iv) To make the public opinion more aware of global health and fairness in health.

Methods

The project is implemented by 29 partners and associates representative of the health community from six Member States (Italy, Germany, Poland, United Kingdom, Spain, Belgium), including universities, medical and students associations and non-governmental organizations. Main activities realized in this public awareness and education project include: (i) mapping of actual under-graduate training courses in 'Global Health' at Italian Medical Faculties;

- (ii) sharing of a core curriculum in global health among participating faculties and realization of a training for trainers;
- (iii) organization of an international conference with feedback from faculties and other associates, followed by preparation of a commitment paper stating future strategies.

Results and discussion

- (i) Coordinated teaching on global health has been started, covering nearly 50% of Italian Medicine Faculties.
- (ii) The International Conference delegates yielded a commitment paper detailing future intra- and inter-university strategies and lobby and advocacy strategies to implement effective and radical innovations in university education and health policies.

Strengthening the capacities of primary health care providers for improving the sexual and reproductive health of adolescents in Macedonia

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Adolescent's sexual and reproductive health (SRH) needs differ from those of adults but remain poorly understood and met. SRH do not primarily refer to disease so there is a need for health promotion and disease prevention approach, for which PHC workers are better equipped than medical specialists. Furthermore, PHC providers could play important role in navigating the patients through the complex 'SRH system'. A series of trainings were provided among PHC workers. The rationale was to improve the 'youth-friendliness' of the existing PHC facilities by improving the providers awareness, knowledge in SRH issues, counselling and communication skills. This was expected to stimulate them for further improving the 'youth friendly' characteristics of their services. Trainings were provided among GPs and nurses from the entire country. The groups of 24–26 participants attended 2 days training, interactive teaching methods were used. Following topics were included in the training curriculum: health risks in adolescence, adolescent sexual and reproductive health (including risky sexual behaviour, contraception, STIs); skills in taking psychosocial interview using HEEADSSS instrument with accent on taking sexual history; characteristics of youth-friendly services with focus on confidentiality and respect of privacy. A manual was developed and distributed. Evaluation of the training showed that participants were very satisfied with the training, but no evaluation is done to see whether they use acquired knowledge in a practice; seems that it largely depends of the individual preferences of the doctor.

Lessons learned

A need for coordinated role of PHC was recognized by the participants. Common trainings should be provided for all actors in 'SRH system': GPs, gynaecologists, dermatologists, nurses and mental health workers, in order to improve their collaboration and networking.

Leaders' training programmes as a tool for healthcare unit development—case study

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Background

Changes in healthcare systems, growing health needs, scarce resources, more turbulent conditions for healthcare units and growing competition force change in ways of organizing and motivating healthcare personnel to provide services. New skills are required to deal with these challenges. Evidence shows that developing leadership skills can improve not only

managerial but also clinical performance of healthcare units team members.

Objectives

The proposed paper aims at presenting development and results of five leadership training programmes for middle managers conducted in Poland. Three of them were a part of a European-level DELTAH project, two other were commissioned by healthcare units.

Results

A scheme for leadership development programmes were developed by the all DELTAH project participants as a common task. The final curricula were adapted to local cultural contexts and varied between countries. Within DELTAH activities courses in Poland were delivered for 80 people from five hospitals. In the UK, about 20 people were trained and in Holland/Belgium—about a dozen people. This was due to problems these partners encountered while accomplishing their part of the project. Two other training programmes in Poland were delivered for 50 people. In all cases trainees not only participated in the training sessions (passive), but also were responsible for delivering and implementing micro-project, aimed at improving quality/effectiveness of the service provision (active).

Conclusions

The courses allowed participants to get better knowledge about organization's environment, understand processes taking place in and outside of it, take more responsibility of organizations' performance and development. The success of programmes conducted in Poland can be attributed to strong involvement of the top managers. In cases, where this feature was missing, lower quality results were obtained. This shows that top managers attitude to training programmes seems to be a key element of successful developing leadership skills among their subordinates.

Can public health professionals effectively communicate their research findings? A pilot evaluation of graphical representations at the 2006 EUPHA Conference in Montreux

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Background

An effective communication of research findings is an essential skill for scientific researchers. Graphs are the most used tool in the context of scientific congresses, because of their immediacy and ease of interpretation. While there were some attempts to evaluate how different types of graphical presentations may affect decisions in clinical medicine, surprisingly few studies have been carried out in the field of public health (PH) so far. We therefore aimed at developing an abstract form to evaluate the characteristics of graph use in the context of an international PH conference.

Methods

We collected 158 of the 187 original research presentations of the 2006 EUPHA Conference in Montreux (completion rate 84.5%). On the basis of relevant scientific literature, we developed an ad-hoc form to evaluate number, type and characteristics of the graphs included in the Results section of each presentation. The form contained items relevant to all types of graphs (e.g. format of axes, scales, legend, use of grids and colours) as well as items relevant to specific graph types only.

Results

The number of graphs included in the Results section of the sample ranged from 0 to 29 (mean: 2.9). Bar diagrams were used in about half presentations (46.2%), followed by linear

graphs (20.3%). Small multiples were used in one out of five presentations. We identified three dimensions of graph use: accuracy, appropriateness and information density. The form showed good internal consistency and satisfactory construct validity.

Conclusions

The form that we developed is a promising tool to evaluate the use of graphs in oral presentations. Given the very broad audience of PH congresses, however, future studies should test the reliability and validity of this form in more epidemiologically oriented contexts.

Connection between the career orientation and the physical condition level

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Background

Health care students will play important role in their future career in promoting of health-related attitude of the patients turning to them for treatment. We suppose that young people choosing career in health service, having knowledge about the body functions and damaging factors to health, take care about their own health and are in good physical condition.

Methods

A cross-sectional study was carried out between October and November, 2008 at the University of Miskolc. One hundred and seventy-five health care college students (163 females, 12 males) took part in the survey representing physiotherapists, health visitors, diagnostic image analysis experts and health tourism managers (mean age 20.6 years). A questionnaire was completed for analysing the students' attitude to the physical activity. The fitness level was measured with the Hungarofit test battery. The validity and reliability of this test has previously been established. The students, according to the achieved scores, were evaluated into seven categories of fitness level: very poor, poor, below average, average, good, excellent and superior.

Results

Of the students, 26% fell into very poor and poor category, 33% below average, 11% average, 1% good, 3% excellent and nobody achieved superior result. Of the students, 33% stated that they do sport regularly, 76% of students agreed with the compulsory physical education during their higher education. Two-third of subjects were satisfied with the sport facilities in Hungary.

Conclusion

Students' physical condition is unsatisfactory even though their future careers would require above-average fitness level. They feel the need of more vigorous physical activity, but this feeling is not strong enough to act on it although there are sufficient sport facilities.

New training programme for facilitating the integration of migrants through human capacity building

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The enlarged European Union faces increased and more complex migration flows. Migrants and travellers represent the conditions and medical background, health beliefs and behaviour of their country of origin. It has also a special importance in relation to the migration of work force that is an increasingly important item of the economic development. Without a well-prepared health assistance mechanism

no successful integration programmes could be imagined. However, at present there is a significant shortage in training programmes how to tackle the special health and social assistance need of migrants.

With the financial support of European Integration Fund and Hungarian governmental co-funding, University of Pecs is developing a six-module interdisciplinary curriculum for upgrading the knowledge, skills and attitude of the personnel of governmental-, non-governmental institutions and civil organizations who are providing assistance and/or service for third-country citizens facilitating their settlement and smooth integration.

The main objective of the programme is to fill the gap from the point of health/public health aspects between the currently dominating educational background of the service providers and their everyday practice defined need.

The target groups are health and social service/assistance providers, border management and alien police staff, officials of local authorities in charge of settlement/integration policy—and students interesting in, planning to join to the migrants related service fields.

The six modules are as follows:

- (i) Public health and applied epidemiology, infectology;
- (ii) Social, behavioural, multicultural, multireligious aspects in the health and social care of migrants;
- (iii) Applied occupational health;
- (iv) Economic aspects of the successful integration of migrants;
- (v) Mental health and psychosomatic aspects of migrants health assistance; migrants communities and health promotion; human rights;
- (vi) 'Migrant friendly' health and social services, related system managerial aspects and tasks.

The newly developed modules (altogether 120 lecture equivalent hours) will be tested and evaluated through pilot training. The results of first feed back will be presented.

Relational competences of nursing students

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Background

The complexity of care requires that training not only happen in the fields of knowledge but also know how to do and know how to be.

Methods

We studied help relational competences of nursing students and its relationship with variables such as social personal competences, age, gender and others. We intend to know if there exists an empiric support for a multidimensional structure of the help relational competence and if so, what kind of relationship is held between those dimensions. We wanted to identify the dimension in which the students manifest a better competence level and also if their social and personal competences enable us to foresee the help relational competence. This is a transversal and exploratory study, a correlation type, with a sample of 923 students of the Portuguese Nursing School.

Results

The existence of a multidimensional structure of the help relational competences with positive correlations amongst them. These dimensions correlate somehow, with the social and personal competences in a way that the considerate dimensions with others enables the foreseeing of the empathetically competence, generic competence and communicational competence dimension.

The social withdrawal dimension helped predict the generic competence dimensions, while the leadership dimensions helps predict the generic and contact competence dimensions. The clinical experience that entered the regression model as

a silent variable, revealed itself to enable the foreseeing of the generic, empathetically and communicational competence development.

We verified that the dimensions in which, in global terms, the students achieved better results was the generic competence dimensions. Another evidence to entrance, is the fact that the clinical experience affects the help relational competence, in a way that the average values obtained were much higher after the first experience when compared with those of the last clinical experience of their university studies and with the values of the complementary course students.

Conclusion

The results appear to emphasize the need to consider some of the already referred variables, in order to act intentionally on the nursing learning process.

Research of the value conformation tendencies in health care college students

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Background

The experts graduated in the field of health care take significant role in the public health. Due to the reform in higher education in Hungary there were significant changes in the health care college education. We studied the occupational-identity development of the health visitor, physiotherapist and diagnostic imaging analyst students studying in the conventional and linear education form at the University of Miskolc. The conventional form was launched last time in 2006. The next year we changed to the baccalaureate system.

Methods

In this longitudinal examination ($n=187$) we use the Rokeach and Super Value Questionnaire at the beginning, in the middle and at the end of the 4-year long college education.

Results

No significant difference was found in the value structure of the conventional and BSc education systems. Nevertheless, significant and strong correlation was observed between the Rokeach Value Scale obtained in the same speciality: diagnostic imaging analyst, $P=0.85$; health visitor, $P=0.89$; physiotherapist, $P=0.96$. The intensity of the occupational specific values—helpful, responsible, altruism, clean—showed decreased tendency by the middle of the 4-year education except of health visiting specialization. In the specialization of diagnostic image analysis and physiotherapy came to the front the values of material, intellectuality, courage and independence. We found differences between the terminal value and the instrumental value structures, which cause disharmony in the carrier identity.

Conclusion

This research revealed that the main problem is not the change to the new educational system, but the lack of the education of the professional values in the health care higher education. The value structure of the health care experts prejudice the quality of the health promotion.

Vulnerable students: dynamics of problem experience and help seeking behaviour

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Background

Previous research conducted by the Student Health Services of the University of Amsterdam has shown that a significant number of students does not seek help despite the fact that they experience considerable physical, psychological and social problems. To investigate why this vulnerable group

of students does not utilize health services, we explore the dynamics of their problem experiences and help seeking behaviour in relation to the broader context of student life.

Methods

A qualitative study was undertaken, which involved interviews with forty university students. Students were recruited by student counsellors, but could also sign up as a participant by responding to leaflets and a specially designed website. Reported symptoms such as anxiety, eating disorders, sleeping problems, stress, fatigue and depression functioned as guiding criteria in the selection process.

Results

There is an interdependence between student life and background, student's experiences of problems and their willingness to seek help. Six profiles are formulated describing how contextual factors, problem experiences and help seeking behaviour interact. Major themes are the romantization of problems, concealment and disclosure, seclusion and isolation, the feeling of being trapped between different life worlds, and experiencing problems as a characteristic of group membership with other students.

Conclusions

The group of students that does not seek help despite the existence of problems is very diverse. The way they experience problems and employ help-seeking strategies depends on contextual and developmental factors. To ensure that this group of students receives the needed support and care, health services need to recognize the distinct dynamics that structure the problem experiences and help seeking of this particular group.

Health behaviours and promotion requests in health university students: a cross-sectional study at Rouen University Health Campus (France), 2007

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Background

Health impairment of students has recently increase attention in public health policy in France. So target-group-specific health prevention has become an important issue. Prevention demands and needs remain to be clearly identified in university students' population.

Objective

To correlate risk factors and risk compartments with health prevention demands in health students.

Methods

In May 2007, a cross-sectional study was conducted in five health schools (medical, pharmacy, nurses, midwives, physiotherapy) in Rouen University Health Campus. Anonymous questionnaires collected age, gender, psychoactive substances consumption (tobacco, alcohol, cannabis), level of stress, dietary habits and demand of prevention related to these topics.

Results

A total of 1407 students were included, with an overall response rate of 77.8%. The sex ratio M:F=0.37, the mean age was 22 years (SD 3.34). The most frequent demands of prevention were successively about nutrition, stress, physical activity and eating disorders. Smoking, alcohol and cannabis risk consumption were significantly associated to demand of prevention (logistic regression): Adjusted Odds Ratio (AOR)=4.54, 95% CI 3.32–6.22 for tobacco prevention; AOR 1.75, 95% CI 1.24–2.46 for alcohol prevention; and AOR 8.04, 95% CI 3.50–18.45 for cannabis prevention. Prevention demand for eating disorders risk, stress and depression was significantly associated to gender (respectively AOR 2.97, 95% CI 2.09–4.94; AOR 1.55, 95% CI 1.10–2.18; AOR 1.43, 95% CI 1.04–1.97 in women).

Conclusion

The findings of this study reveal that demands of prevention are strongly correlated with established comporment risks. There is strong need for health promotion in our health campus in new areas (stress management, eating habits). In France, the ability to respond to needs among students is currently a challenging public health investigation and intervention area. The implementation of health counselling programme (including individual supports) could help to raise the awareness about risk comporments and to strengthen the prevention competencies of students.

Psychosocial variables and alcohol binge drinking and problematic drinking patterns among university students

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Background

Binge and problematic college alcohol drinking are important public health problem, because there is a risk that some individuals can continue with this form of risk behaviour after college. The aim of this study was to investigate the association between the social skills and the alcohol refusal skills under pressure, as well as binge and problematic alcohol drinking among university students.

Methods

Binary logistic regression was used in order to explore the simultaneous contribution of social skills (the behavioural factor of The Tromso Social Intelligence Scale) and alcohol refusal skills under the pressure (the factor of the Drinking Refusal Self-Efficacy Questionnaire) towards binge drinking (5 or more drinks at least once during the last month), and problematic drinking patterns (two or more positive answers on the questions of CAGE test) among university students (934 university students; mean age 21, SD 1.8; 63.8% girls) from three universities in Kosice, Slovakia.

Results

Social skills and the alcohol refusal skills under pressure among both females and males were found to be significantly associated with binge and problematic drinking patterns. Higher levels of social skills and lower levels of alcohol refusal skills under the pressure were found to be significantly associated with alcohol binge drinking and problematic drinking.

Conclusions

Our findings confirmed that social skills, as important part of students' psychosocial competence, might be included among risk factors of binge and problematic alcohol use among university students. The importance of the development of alcohol refusal skills under the pressure was confirmed in this research not only among adolescents, but also among university students.

Smoking among Kosova medical students

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Background

In several countries, recent large-scale efforts at health promotion have contributed to a substantial decline in smoking among adolescents. However, partly because of aggressive marketing by tobacco companies, smoking is increasing rapidly in developing countries, particularly among the

young. In Kosova till now we did not have any study about the prevalence of smoking among medical faculty students.

Methods

Using a questionnaire prepared for the cross-sectional type of research, 170 first-year students of the Medical Faculty of University of Prishtina, Kosova had been interviewed. The survey was conducted in March to April 2009 using self-reported questionnaires.

Results

Out of 170 medical students, 80 (47.1%) reported that they had ever smoked. Regular smokers (daily and weekly) constituted 56.3% of all smokers (giving 26.5% prevalence); 35 (52.9%) were experimental smokers. Nursing students showed the highest prevalence (33.3%), followed by physiotherapy students (31.7%); general medicine students showed the lowest prevalence of regular smoking (16.1%) ($P < 0.01$). Daily smokers (7.6% prevalence) showed the same trend. The prevalence of regular smokers has significant difference by gender (male 33.3% vs. female 23.5%, $P < 0.05$).

Conclusions

Because of high prevalence of smokers among first year students any antismoking programme it would be better to initiate at an early age before faculty education. Such programmes should continue at intervals through a comprehensive school health programme.

Study on Polish student's awareness knowledge on environmental and occupational cancer risk factors and its prevention

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Background

Exposure to a wide variety of cancer-causing substances becomes common in modern industrial society. The aim of our study was to assess the level of knowledge on potential risks and their prevention among Polish students.

Methods

Population under study consists of 1080 Polish students, from various regions and universities, including medical, technical and agricultural schools. The 980 of them have specialization associated with health risk occurrence while the others declared interest in that issue. The questionnaire was used to investigate level of awareness on various aspects of environmental and occupational cancer risks and possible way of its prevention.

Results

Students rated their knowledge on cancer agents and cancer prevention mostly as limited (over 70%) and almost 20% have no knowledge or couldn't estimate it's level. Almost all, who responded question about substances, which might cause a cancer, were aware of carcinogenic features of radiation, asbestos, cigarettes (93.2–93.8%), benzene, pesticides (79.2–83.6%). Few of them were convinced of carcinogenicity of polycyclic aromatic hydrocarbons-PAH (75.4%), heavy metals (73.9%) and infections (60.8%). Significant differences, due to university profile, were observed in the PAHs and heavy metals issue. Those, who declared participation in courses covering the issues of health safety at work or environment (SWE), significantly more frequently indicated the mentioned agents (except asbestos) as carcinogens. Almost 95% students considered there was a possibility to lower the cancer risk, but over half of them declared no knowledge on preventive procedures. Specialization profile and attendance in SWE courses significantly differentiated percentage of respondents, who didn't know how to lower the risk.

Over 80% of students were interested in deepening their knowledge on this subject.

Conclusions

Our results demonstrated that although the majority of students are aware of well-known cancer-causing substances occurrence, though, they are not aware of the carcinogenic agents in everyday life or occupational environment and they do not know how to decrease or eliminate the risk. Therefore the modernization of educational programmes and development of more efficient communication strategy in that issue are needed.

Assessment of knowledge, attitudes and practices about road safety among university students of the Faculty of Medicine in Tirana, Albania

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Background

Our aim was to assess the level of knowledge, attitudes and practices related to road safety and the associations with socio-demographic characteristics among undergraduate students at the Faculty of Medicine in Tirana, the Albanian capital.

Methods

All second-grade students of the General Medicine branch at the Faculty of Medicine (233 girls and 77 boys) completed a self-administered and anonymous questionnaire in February to March 2009. The questionnaire included

socio-demographic data and information about knowledge, attitudes and practices related to road safety including the use of seatbelts and helmets, and compliance with traffic lights and other road signs. Binary logistic regression was used to assess the association of socio-demographic factors with road safety measures.

Results

Of the students, 67% reported they were adequately informed about road safety measures in all capacities of road use (pedestrians, passengers, or drivers—including bicycles and motorcycles). However, only 19% of the students reported the use of seat-belts while passengers or drivers, only 27% reported the use of helmets, and only 34% reported to comply with traffic lights and other road signs. Compared with males, female students were more likely to report the use of seat-belts and helmets (OR 1.67, 95% CI 1.09–2.23 and OR 1.43, 95% CI 0.93–2.04, respectively) and to comply with traffic lights and other road signs (OR 1.97, 95% CI 1.13–2.76). Conversely, there were no significant differences in levels of knowledge, attitudes and practices related to road safety with regard to students' origin (rural vs. urban areas) or religion ($P=0.17$ and $P=0.29$, respectively).

Conclusions

Our findings indicate a high prevalence of risky behaviours related to road safety among university students in Tirana, particularly among males who exhibit high-risk practices which expose them to a wide range of road traffic accidents. The imperative need to comply with road safety measures should be integrated into the teaching curricula of different disciplines in both high schools and universities in Albania.