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by numbers

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Oral Communications	02
Chronic diseases	03
Communicable diseases	04
Determinants	07
Environment	09
Food habits	11
Information	12
Mental health	13
Mortality	14
Occupational health	17
Oral health	17
Policies	19
School health	21
Services	22
Tobacco	23
Vaccination	28
Waste	30
Posters	32
Accidents	32
AIDS	34
Communicable diseases	34
Environment	38
Food habits	44
Genetics	44
Information	45
Mortality	46
Obesity	46
Oral health	47
Practice	49
School health	50
Services	52
Tobacco	53
Training	54
Vaccination	55
Author Index	56

#editorial

Paulo Nogueira

The importance of Public Health in Portugal: Combining Past and Future

I promised in the number three of this journal the publication of the proceedings of the 1st Portuguese National Congress of Public Health, a project that we had cherished for quite some time and which has been progressively postponed. The promise is now fulfilled with this special issue.

Public Health is always an item in our agenda; it doesn't comply with any conjugation of time that is not immediate and permanent. Public Health is always present in our lives, when it is cold, when it is hot, when we go to school, when we go out, when we eat, when we drink, when there are accidents, when we go to the health center or to the hospital ... it is always present! We can make a break, but people's Health moves inexorably and its work has to be done. Public Health has to be strengthened and its thinking must to be done.

The recent dispatch no. 11232/2016 published in the *Diário da República* 180/2016 of last September 19th relaunched the reflection of the Portuguese Public Health's near future (and beyond). The subject is in our minds, it is in our agenda.

This publication of the proceedings of the 1st National Congress of Public Health, held in 2009, can be a simple and short contribution to the reflection of this future. But I believe that it will help to understand the present. The moment of the first Portuguese National Congress of Public Health was a milestone that now begins to seem distant in time and yet, we are essentially the same health professionals, doing almost the same things, aligned with today's pursuit of Better Health for everyone, with a new ambition for Public Health in Portugal.



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1ST PORTUGUESE NATIONAL
PUBLIC HEALTH CONGRESS

ORAL COMMUNICATIONS



Topic

ACCIDENTS

Accidents are a serious public health problem!

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ABSTRACT

Objective: European and national data on accident-related mortality and morbidity nowadays allow us to draw trends, highlight risk factors and compare health outcomes.

Today, it is increasingly clear that interventions on accident prevention based on scientific evidence and based on a public health approach are effective. Health has an important role in the whole process: leading actions, raising awareness and collaborating with partners, participating in assessment and empowering professionals.

Methodology: the statistical analysis of accidents allows us to know their severity, where they occur, what group of people they affect and under what circumstances they occur.

Road accidents are surveyed and analysed systematically by the National Road Safety Authority. Domestic and leisure accidents have been monitored by the Dr. Ricardo Jorge National Health Institute from a

sample of Hospitals and Primary Care Centres. Information on work accidents is collected by the Authority for Working Conditions.

Results: taking the «picture» of accidents in Portugal involves analysing their data sources and their impact throughout the life cycle.

This analysis points out that, until the age of 19, domestic, leisure and road accidents are the main problem. From 24 to 55 years of age, domestic and leisure accidents decrease significantly and road accidents stabilise. Work accidents reach their peak between 35 and 45 years of age. After the age of 65, road accidents rise slightly, domestic and leisure accidents increase significantly and work accidents show a clear reduction.

Conclusions: accidents, though being a serious public health problem, contributing to mortality and chronic disability, with high costs in hospital admissions and treatments, lost productivity and human suffering, can be prevented. A public health intervention based on problem definition, on the identification of risk and protective factors, on the development of preventive strategies and expanded implementation of a programme, permanently evaluated and adapted, brings undeniable health gains.

Topic

CHRONIC DISEASES

Study on the Prevalence of Diabetes in Portugal

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ABSTRACT

Introduction: the number of people with diabetes has been growing around the world, becoming what can be called a pandemic. So far, the data used in Portugal came from the use of figures from Catalonia (IDF) or the results of the self-referencing INS (National Health Interview Survey).

Objective: the aim of this study was to determine the Prevalence of type 2 Diabetes, of Impaired Fasting Glucose and of Impaired Glucose Tolerance in the Portuguese population between 20 and 79 years of age.

Material and methods: A population of 5167 individuals was randomised, stratified by gender and age (20-79 years) from 122 units, in 93 municipalities selected at random.

A random sample of 100 people was used for each unit. Out of a total of 12,200 notices sent, there was a response rate of 63.5%.

Plasma glucose was tested after a fast of at least 12 hours and after the intake of 75 g of glucose. Using the WHO diagnostic criteria:

Diabetes - Plasma glucose \geq 126 mg/dl

IFG - Plasma glucose \geq 110 mg/dl and $<$ 126 mg/dl

IGT - Plasma glucose \geq 140 mg/dl and $<$ 200 mg/dl

Normal - Plasma glucose $<$ 110 mg/dl

Results: the prevalence of diabetes observed in the Portuguese population was 11.7% (95% CI: 10.8% to 12.6%) with a significantly different distribution between men 14.2% (95% CI: 12.5% to 15.5%) and women 9.5% (95% CI: 8.5% to 10.6%). 6.6% of the people had a previous diagnosis of diabetes and 5.1% of people were unaware of the diabetes diagnosis, corresponding to 905,035 Portuguese people between 20 and 79 years of age with diabetes, of which 395,134 (43.6% of the total) were unaware of having diabetes. By age group, there was a percentage of 2.4% between 20 and 39 years, 12.6% between 40 and 59 years and 26.3% between 60 and 79 years. There was a percentage of 23.2% with IFG and IGT, which corresponds to 1,782,663 people.

The Azores have higher regional values, with a prevalence of 14.3% (9.2% with diagnosed diabetes and 5.1% with undiagnosed diabetes). 34.9% of the Portuguese population between 20 and 79 years of age (2,687,698 Portuguese people) suffer from diabetes or "pre-diabetes".

Hospital admissions due to Diabetes Mellitus in Mainland public hospitals from 2000 to 2007

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ABSTRACT

The objective is to characterise hospital admissions due to Diabetes Mellitus in the period from 2000 to 2007, in Mainland public hospitals.

The methodology followed was to present a descriptive study, based on morbidity information of the discharged patients included in the databases of Diagnosis-Related Groups. The information was grouped by gender, age groups and regions. The aim is to present the number of discharged patients, rates of hospitalisation, average delays and costs.

Results: in the eight years that comprise the analysed period, the number of discharged patients was 96,004, reaching an annual average of about 12,000 discharged patients. Growth reached 20,6%. The rate of admissions per 100,000 inhabitants grew 16.5%. As for the geographic distribution of discharged patients, and referring to the health regions, some asymmetries increased. The distribution of discharged patients by gender is characterised by a higher number of female patients discharged. The average age is around 63 years, with small annual variations. The rate of in-hospital lethality decreased globally, for all public hospitals, to 4.5%. The average admission time (2007 - 9.3) has been decreasing, although it is still well above the national average. Peripheral complications have more discharged patients. Annually, there are approximately 1000 amputations, of which 30% are major amputations. In 2007, the total direct costs of discharged patients amounted to about 38 million euros, including the total costs of kidney transplants performed on these diabetic patients.

Conclusions: with the exception of the decreased in-hospital lethality and average admission times, these admissions have had, over the analysis period, similar characteristics and can be classified as costly admissions, of older people with frailties and dependencies and consumers of a great amount of resources – high average admission times and high costs.

Difficulties Perceived by Family Caregivers of Elderly Dependant due to Stroke

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ABSTRACT

The ageing of population is a phenomenon that affects developed and developing societies due to increased longevity and low birth rate (among other factors). Alongside the demographic change that has occurred in an accelerated manner in recent decades, there has also been an increased prevalence of cardiovascular diseases, particularly Strokes, associated with the lifestyles that characterise contemporary societies.

The main objective of this study was to determine the difficulties perceived by family caregivers of elderly dependent due to stroke, within a limited period of time.

A descriptive-correlational, observational and cross-sectional study was carried out, with a sample of 82 family caregivers and corresponding elderly dependents due to stroke, subject to their care; family caregivers were aged 27 to 85 and the elderly dependent due to stroke were aged between 65 and 98. The data collection instrument consists of four parts: the first contains the data on the dependent relative; the second contains the data on the family caregiver; the third consists of the Activities of Daily Living Rating Scale (Katz Index – current form) and the fourth part contains the CADI (Carers' Assessment of Difficulties Index) which assesses the difficulties perceived by the family caregiver, validated for the Portuguese population by Brito and Barreto (2000).

The authors conclude that most family caregivers perceive difficulties in caring for their elderly person, dependent due to stroke, in all dimensions of CADI and that most of the elderly were dependent on five of the six activities of daily living.

Therefore, we suggest an integrated intervention between the various institutions with social responsibility and within the scope of health, in order to improve the care provided to these patients and to promote a greater quality of life for the caregiver.

Topic

COMMUNICABLE DISEASES

Preparing for pandemic influenza in the Northern region. Intersectorial simulation exercise

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ABSTRACT

Introduction: the strategies developed by the Monitoring Group for Pandemic Influenza at ARS North, were based on:

- Specific training of health professionals in the Northern Region on Avian Influenza in Humans by A Virus (H5N1);
- Stimulation of the development of response plans for pandemics in Primary Care Centres, Hospitals and private health institutions;
- Preparation and dissemination of a Check-list adapted to each type of institution, so that their plans can be assessed;
- Conduction of simulation exercises for Phase 3 of the Pandemic Alert
- CPX mode - exercise for training command posts, supervisors and communications
- Time period of the exercise 14 July 2007
- FTX/LIVEX Mode - exercise that involved real simulation with the intervention of different institutions
- Time period of the exercise 18 June 2007

Methodology: 2 working groups were created

- CPT – Core Plane Team – constituted by the members of the Influenza Monitoring Group of the Northern Region and a member from the Communications Command
- GTCA – Grupo de Trabalho de Controlo e Arbitragem (Arbitration and Control Working Group) – constituted by members of the several services to be tested

The CTP developed the Exercise Directive, which defined 4 fundamental phases:

Academic Phase, Exercise Planning Process Phase, identifying the Main Incidents List (MIL) and the Main Events List (MEL), Execution Phase and Evaluation Phase

Conclusions: the groups identified

1. a need to ensure the dissemination of relevant information on the procedures to adopt in case of possible/probable/confirmed cases of infection by influenza virus;
- 2..constraints at the level of the procedures defined;
3. some ambiguity in airport procedures and circuits;
4. some of the players involved in the exercise demonstrated difficulties in the use of PPE

Proposals:

- Development of an Airport Contingency Plan;
- Education and training of health professionals on the use of PPE.

Topic

COMMUNICABLE DISEASES – SURVEILLANCE

Space and time modelling of hospital admission rates for pneumonia and influenza in the Northern region of Portugal: 2000-2006

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ABSTRACT

Pneumonia and influenza represent a serious public health problem that has a major impact on resource allocation in healthcare services. The knowledge about how these diseases vary geographically provides clues to understand the determinants of these diseases, and for the effective management of healthcare resources. Recent advances in disease mapping focused on the inclusion of the time dimension, thus giving rise to the time and space analysis of the variation of disease.

se risk. The object of this study was to propose the Bayesian model to study the space-time variation in disease risk.

We conducted a retrospective ecological study on hospital admissions due to pneumonia and influenza between 2000 and 2006 in the North region of Portugal. The study was based on data from patients discharged from NHS hospitals in northern Portugal. All hospital discharges for pneumonia and influenza (ICD-9-CM 480-487; primary diagnosis) were analysed. Bayesian space-time models were used to analyse the data. Bayesian methods, including spatially structured deadline, were used to remove part of the randomised component of the map and provide soft estimates of relative risk in each area. The adjusted Bayesian rate was generated by WinBUGS. The overall rate of the North region was stratified for known confounding variables such as age and gender, per year. From 2000 to 2006, a total of 63751 hospital admissions due to pneumonia and influenza were reported in 68 municipalities. The results revealed spatial patterns in patient data and highlighted areas of disparities in hospital admissions adjusted by age and gender among the population of the North region of Portugal. Patterns of high rates were found in the north-eastern districts.

The Bayesian analysis, in combination with geographic information systems technology, revealed spatial patterns in patient data and highlighted areas of disparity in the risk of hospitalisation due to pneumonia and influenza among the population of the North region of Portugal. This study represents an important step of a dynamic nature on the analysis of these diseases, and lays the foundations for the application of spatial modelling techniques to explain them. This research demonstrates the importance of knowing how hospital admission rates are associated with populational indicators measuring socioeconomic, behavioural, healthcare and environmental factors.

Study of human brucellosis and contribution to the reduction of its incidence in the district of Santarém, in 2005-2007

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ABSTRACT

General objective: to improve the health status of the population of the district of Santarém, by decreasing the incidence of human brucellosis, in 2005-2007.

Methodology: experience under uncontrolled conditions.

A – Situation diagnosis – In the universe of brucellosis cases reported in the Compulsorily Notifiable Diseases information system, in 2005, in the district of Santarém, through studies:

1. Descriptive epidemiology of cases.
2. Study of the statistical significance of the difference in Forms of Contamination.

3. Observational and analytic epidemiological case-control study:

- The collection of information was processed through direct interview questionnaire to three Controls per Case (with the same age, gender and municipality of residence); 92 people were surveyed, 23 of which were Cases of brucellosis and 69 Controls;
- Variables related to the consumption of dairy products, eating habits, professional occupation, contact with animals and behaviours were studied;
- The levels of exposure to risk factors were studied retrospectively through the cross-product ratio (odds ratio).

B – Intervention – Developed in the district of Santarém within a Health Promotion process:

- Motivation of the Veterinary Intervention Divisions and Public Health Services for the prevention, surveillance and control of brucellosis;
- Intervention within the scope of dairy products inspection;
- Information for disease prevention.

Results: obtained in the district of Santarém in 2006 and 2007:

1. Decrease of *Brucella* spp.-positive ruminant farms.
2. Decrease in occupational risk of brucellosis.

3. Change in the epidemiological pattern of the Form of Contamination.

4. Decreased incidence of the disease: the standardised incidence rate for age, which in 2005 was 4.9 (per 100,000); in 2006 and 2007, respectively, it reached the values of 2 (per 100,000) and 1.1 (per 100,000), having as denominators population estimates by INE (2006).

The epidemic index in the district, which recorded a high value in 2005 (2.87), presented low values in 2006 (0.5) and 2007 (0.29).

Conclusions: the decreased incidence of brucellosis in this district is due to the convergence of activities undertaken by the Services responsible for the prevention, surveillance and control of the disease.

Hospital Admissions due to Pertussis 2000-2006 in the North Region of Portugal

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Keywords: pertussis, admission, gender, age group, lethality

ABSTRACT

Pertussis is a severe disease in infants. The pertussis vaccine was introduced in the National Vaccination Programme in 1965, and there has been a visible decrease in the notification of the disease since 1967. In the North region, the vaccination coverage is above 98% in the birth cohorts vaccinated in the last ten years. Primo-vaccination occurs at two, four, and six months of age. This study aimed to analyse the extent of the disease, characterising the hospital admissions due to pertussis which occurred in the North region from 2000 to 2006, in order to understand the factors associated with the occurrence of the disease. A retrospective observational study of hospitalisations due to pertussis was carried out, analysing the time, space and person dimensions, in the 2000-2006 period, using information from the Diagnosis-Related Groups with code 033 (ICD-9-CM). Average rates of hospitalisation per 100 thousand inhabitants were calculated by region, district, municipality, gender and age group. The severity of the disease was assessed by analysing the average duration of admission, the proportion of patients in intensive care units and lethality.

In the North region, in the 2000-2006 period, there were 322 hospital admissions due to pertussis, varying between 81 (2000) and 25 (2002 and 2006). Age distribution shows that 91% of hospital admissions occurred with children under one year of age, and 43.5% of cases occurred before primo-vaccination. The average hospitalisation rate in the North region was 114 cases per 100 thousand inhabitants in the <1 age group. Male patients represented 56.8% of the cases. The average length of hospitalisation was 8 days, the proportion of patients treated in the intensive care unit was 11.2% and lethality was 0.3%.

Given the fact that pertussis is a highly severe disease in children, particularly infants, one must admit that all cases are hospitalised, so this study would represent a reliable estimate of the incidence of the disease in infants, in the 2000-2006 period. New vaccination strategies are needed for a decreased incidence in the most afflicted age group. We admit that administering an extra dose of the pertussis vaccine to adolescents and certain population groups, by reducing the number of carriers of *Bordetella Pertussis* in the community, may enhance group immunity, and thus improve the control of the disease,

Epidemiological Surveillance of Legionnaires Disease in Portugal, 2004-2008

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ABSTRACT

Objectives: Legionnaires Disease (LD) was included in the Compulsorily Notifiable Communicable Diseases (CND) system in December 1998. In April 2004, the Programme for Integrated Epidemiological Surveillance of Legionnaires' Disease (the Programme) was created to improve disease diagnosis, notification and epidemiological investigation of cases, promoting the environmental study and molecular characterisation of isolated strains of Legionella.

Results of the first five years of the Programme are hereby presented.

Methodology: to study long-term trends (2000-2008), we used the CND database and the database of Diagnosis-Related Groups (DRG). For the epidemiological analysis and laboratory diagnosis methodology, we used the database of the Programme (2004-2008), considering, for the calculation of notification rates, the population estimates at midyear. The typification of isolated clinical strains (2004-2008) was performed by applying the two methods recommended by EWGLI: monoclonal antibodies (MAbs) and sequencing using seven alleles (SBT).

Results: in 2004-2005, a total of 400 cases was notified through the Programme, and comparing this with the DRG data revealed the existence of underreporting. The lethality rate found in 2004-2007 was 7.4%. In 2004-2007, 78.5% of the cases were male and the most afflicted age group was 40-49 years old. Cumulatively, the disease peaked in October, with high numbers occurring from July to October. There was an increase in the proportion of confirmed cases and a decrease in the proportion of cases classified as unknown, in 2006 and 2007. At the same time, there was an increase in the use of antigenuria (from 44% in 2004 to 85% in 2007) as the main method of diagnosis and a consistently low proportion (6% to 11%) in the diagnosis by culture isolation. After typification of the 22 isolated clinical strains (2004-2008), it was found that 13 strains had sequencing traits (ST) which existed only in Portugal.

Conclusions: comparing the data of hospitalisations due to Legionnaires' Disease (DRG) with notification data, we conclude that the reported incidence of the disease is underestimated, which is supported by data from other European countries. There is a clear seasonality. The increase in the proportion of confirmed cases is very likely related to the increased use of antigenuria as a method for laboratory diagnosis (allows confirmed case diagnosis for Lp sg1). It is necessary to improve the diagnosis, notification and number of isolated strains.

Characterisation of the Compulsorily Notifiable Diseases Notification Process in the Municipality of Penafiel

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ABSTRACT

Objectives:

1. To determine the period of time between: the onset of symptoms and the notification of the Compulsorily Notifiable Disease (CND) by the reporting physician; between notification of the CND by the reporting physician and the knowledge by the Health Authority, and between the onset of symptoms and the knowledge of the CND by the Health Authority;
2. To determine the number of CNDs reported between 2002 and 2007;
3. To Determine the most prevalent CND per year;
4. To determine the most frequent CND in every parish of the Municipality;
5. To determine which institutions and clinicians more frequently notify the CNDs.

Methodology:

1. Collecting from Form No. 1536 (exclusive of INCM, SA), between 2002 and 2007, the following parameters: Disease Code (ICD-10); Date of onset of symptoms; Parish of residence of the patient; Date of notification; Institution and reporting clinicians; Date of knowledge by the Health Authority;

2. Statistically processing and analysing the collected data, using Microsoft Access (2002-2003).

Results: 228 CNDs were reported in the municipality of Penafiel between 2002 and 2007. It was in 2007 that a greater number of CNDs was reported: 61 cases, versus only 14 CND cases in 2003. The average time between the onset of symptoms and the knowledge of the CND by the Health Authority was 62 days. The average time between the notification of the CND and its knowledge by the Health Authority is 15 days. The average time between the onset of symptoms and the notification is 47 days.

Conclusions: underreporting and the delay in the CND Notification Process are two problems to overcome in Portugal, particularly in the municipality of Penafiel. It is therefore crucial to intervene with the professionals who diagnose communicable diseases in the Municipality of Penafiel, in order:

1. To increase the percentage of CNDs notified to the Health Authority;
2. To streamline the Municipality's CND Reporting System, making it more efficient and enabling Public Health Services to intervene more quickly;
3. To speed up the process of reporting CNDs after their diagnosis and the subsequent epidemiological investigation, as well as improving its communication to reporting physicians;
4. To decrease the average time period elapsed between the diagnosis of the CND and its knowledge by the Health Authority.

Reform of the Epidemiological Surveillance System for Communicable Diseases

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ABSTRACT

Introduction: within the scope of a Public Health Surveillance System, it is intended to implement an information system that allows laboratory notification and dematerialisation of the Epidemiological Surveillance System for Communicable Diseases.

Objectives:

- Integration within the European Epidemiological Surveillance System (TESSy);
- Mandatory clinical and laboratory notification for all compulsorily notifiable communicable diseases;
- Dematerialisation of the whole communicable diseases notification process;
- Integration of the information systems on healthcare-related communicable diseases into this system;
- Creation of a specific information system for antimicrobial resistance;
- Integration with other emergency support information in public health.

Presentation:

- General description of the notification system procedures – data flow;
- Electronic forms for compulsorily notifiable communicable diseases;
- Case validation;
- Other notification methods – in paper and machine to machine;
- Warnings;
- Notification of outbreaks and network of contacts;
- Statistics on the process status;
- Feedback information, periodic information;
- Automatic production of periodic statistics.

Listeria monocytogenes: an emerging pathogen

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E-mail: m.isabel.santos@insa.min-saude.pt**Keywords:** Listeria m, pathogen, food**ABSTRACT**

Food-borne diseases of microbiological origin are a growing problem in Public Health, both in developed and in developing countries, and represent one of the biggest challenges for Food Safety.

The epidemiology of these diseases is constantly changing as new pathogenic microorganisms emerge, and this phenomenon can be explained by several factors such as demographic and behavioural changes, industrial and technological developments, globalisation of trade and evolution of microorganisms.

Listeria monocytogenes emerged as an important food-borne pathogen in the second half of the 20th century, and it is now recognised that the intake of contaminated food is the main route of transmission to humans. This was due to several outbreaks attributed to the intake of food, which occurred in the United States, Canada and Europe, in the 1980s. Listeriosis primarily affects specific segments of the population that are more vulnerable, such as pregnant women, new-borns, the elderly and the sick, reaching a mortality rate of 20-30%. Clinical symptoms include septicaemia, meningitis, meningoencephalitis, abortion and preterm delivery.

In Portugal, listeriosis is not a compulsorily notifiable disease, therefore the existing data translate and underestimated reality, as most of the cases are not reported.

L. monocytogenes is a ubiquitous bacteria, widely present in nature, including human and animal intestines, and it is estimated that 6% of the population carries this microorganism. Environmental contamination, particularly post-processing contamination, as well as the ability to form biofilms on equipment and manufacturing environments, which are difficult to eliminate by means of the commonly used disinfection programmes, explain the ease with which these bacteria can contaminate food at any point of the production chain. Additionally, this microorganism is resistant to several environmental conditions, being able to multiply at low pH and temperature levels, as well as in saline environments. In general, the foodstuffs involved in outbreaks and sporadic cases of listeriosis are mainly industrially processed products, maintained under refrigeration, with a long shelf-life, and which provide suitable conditions for their multiplication.

The use of general hygiene principles and codes of best practices, and in particular the principles of the HACCP system, constitute the most effective means of combating the spread of this agent and therefore preventing human listeriosis.

We present the data from the Microbiology Laboratory of the Food and Nutrition Department at INSA, resulting from the control performed in collective catering, for the period 2004-2008.

Characterisation of the non-enzymatic mechanism of resistance to ampicillin in isolated Haemophilus influenzae strains in Portugal

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E-mail: anarake12000@gmail.com**Keywords:** ampicillin, Haemophilus influenzae, mutation, gene**ABSTRACT**

Objective: to investigate and analyse mutations of the *ftsI* gene responsible for the production of proteins that bind penicillin (PBP3), in a set of non-β-lactamase producing *Haemophilus influenzae* (Hi) strains, with minimum inhibitory concentrations (MIC) of ampicillin from 1 to 8 mg/L. To correlate the mutations of this gene with the ampicillin resistance mechanism.

Methodology: the sample of 107 clinical isolates of Hi, from several Hospital Laboratories in Portugal and isolated between 2001 and 2008, includes strains from individuals of different ages: 37% children under 5 years of age, 20% between 6 and 18 years of age and 38.3% adults. Most strains were isolated from respiratory infections (69.2%); only 5.6% were of invasive origin. The determination of antibiotic susceptibility was performed by microdilution plating, and analysed according to the "breakpoints" established by the CLSI. The amplification of the *ftsI* gene was performed by PCR with specific "primers" for its full amplification (1832bp). After sequencing, the mutation analysis was performed by computer, using the NCBI database.

Results: mutations in the *ftsI* gene were characterised in 99% of the strains, mostly located near two preserved areas of extreme importance for the function of the protein. The most common mutations pattern: Ala502Val, Asn526Lys, Val547Ile and Asn569Ser was observed in 59.9% of the strains. Other antibiotic resistances: 51.9% to cefaclor, 43.5% to trimethoprim-sulfamethoxazole, 31.5% to cefuroxime, 8.3% to meropenem, 2.8% to azithromycin, 0.9% to chloramphenicol, cefepime and tetracycline. We emphasize the high percentage of resistance to cefaclor in strains with PBP3 mutations.

Conclusions: in almost all strains with MIC of ampicillin of 1 and 2 mg/L, there are mutations in the *ftsI* gene near the preserved regions, which indicates the existence of a non-enzymatic resistance mechanism. However, according to CLSI, a strain with an MIC of 1 mg/L is sensitive to ampicillin. Molecular epidemiology studies, performed in strains of this nature are of the utmost importance in Public Health, since they enable the development of effective empirical therapies thus avoiding therapeutic failures.

Topic

DETERMINANTS**Active Ageing in a Healthy City**

Mirieme Ferreira

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The active and healthy ageing of populations, being a matter of the utmost importance and timeliness, finds in the city of Seixal fertile grounds for its development. This is a municipality where the Healthy Cities approach has set a standard, with various health promotion projects intended for all age groups of the population, promoting inter-generational learning and active ageing throughout the life cycle.

According to literature, Active Ageing is the process of optimising opportunities for health, participation and security in order to enhance

quality of life as people age (WHO, 2002). It is around this concept that a cross-sectional study of an exploratory and descriptive nature was developed, which tried to examine the practices associated with active ageing in people aged 65 or more, residing in the municipality of Seixal. They answered an interview questionnaire built based on what the literature defines as determinants of active ageing.

In the analysis of the results, among other aspects, correlations were found between the practice time of activities over life and the active ageing process, showing that the sooner people start practicing cultural activities [$r_s(33)=0.58$, $p=0.020$], arts and crafts [$r_s(33)=0.94$, $p=0.000$] and recreational/physical activity [$r_s(33)=0.78$, $p=0.000$], the more active their ageing seems to be.

The results obtained in this study show the added-values associated

with the approach of Active Ageing postulated by intersectorial dynamics which intervene upon health determinants. They also reinforce the importance of investing in measures that promote healthy ageing throughout the life cycle of the individual and leave clues for thought on the success of municipal policies, as well as on priority areas of intervention. Within this context, there are various projects developed in the Municipality of Seixal intended for different population groups. These projects provide opportunities for lifelong learning, which stimulate and encourage participation in the various dimensions of social life, which value health protective factors, namely the development of social support networks, of healthy lifestyles, the creation of healthy physical environments, the promotion of mental health, among others. As carrying out activities over the course of life has the greatest impact on the Active Ageing process, it can be concluded that Active Ageing is the result of an Active Life, and this is the purpose/proposal of a Healthy City.

The promenade of Oeiras as a facilitator of physical activity: significance for health promotion

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ABSTRACT

Objectives: to characterise the type of use of the Promenade of Oeiras (PMO - Passeio Marítimo de Oeiras) and determine the contribution of such infrastructure to the compliance with PA recommendations for health.

Methodology: 315 PMO users over 16 years of age answered an on-site questionnaire about the type, frequency and duration of their use of the PMO and other weekly PA practices. The cut-off value for compliance with the PA recommendations for health was "30 minutes of moderate intensity PA per day (PAm/d), 5 days per week".

Results: most of the users reside in Oeiras (71%), half of which in the parish where the PMO is located. 94% classify the site as well suited for PA considering the proximity, free access, lack of barriers and characteristics of the path. In the International Classification of Functionality, the PMO corresponds to an environmental factor described both as "e140" and "e1602" and is coded as a "+4" facilitator. In each use, 92% of respondents reach or surpass 30 minutes of PAm/d. Among the PMO users, 31% meet the PA recommendations for health. For a high number of users (69%), the PMO is the only place where they perform PA every week.

Conclusions: the PMO is a facilitator of PA practice for nearby residents who classify this structure as an accessible and appropriate location for it. Using the PMO, exclusively or as a supplement to other practices, contributes to achieving the PA recommendations of the WHO. The results suggest, in line with previous researches, that environmental interventions that create or improve access to adequate PA practice locations are indicated to fight against sedentary lifestyles, obesity and non-communicable chronic diseases.

Lifestyle and obesity in Portugal – Positive Energy Movement Study.

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ABSTRACT

Objectives: to know in detail the attitudes and behaviours of the Portuguese people with regard to the problem of food, physical activity and obesity.

Methodology: two studies were carried out, one of a qualitative nature, from the perspective of addressing child and youth obesity in three groups (mothers, children and young people), and another of a quantitative nature, from the perspective of addressing overweight in adults, with a representative sample of the Portuguese population.

Results: most of the respondents acknowledge that their families are inactive. Television, games consoles and computers are pointed out as

prevalent activities in their free time. Individuals who practice physical activity do it "because it's good for your health" and "because it makes you lose weight", mostly. Portuguese families worry about the living habits of their children, particularly with eating habits, but this concern is not always applied in the behaviours adopted on a day-to-day basis. Situations of thinness are more worrying for parents than overweight. Overweight/obesity is already seen (by mothers) as having physical and psychological consequences, the latter being those which concern mothers the most, given the direct and negative impact on the daily lives of their children. The consequences in physical terms are seen as appearing more in the medium/long term, except in cases of major obesity, in which problems of mobility become evident at an early stage. Also with regard to obesity in adulthood, its negative consequences are recognised, being related to health problems, decreased mobility and a negative impact in terms of self-esteem. The Portuguese, especially those who have small children, want to know more about healthy cooking ("tricks") and yearn for "tips" to help their children eat in a healthier manner. With regard to behaviour changes, there has been some resistance, however men reported being more willing to increase their level of physical activity, and women to improve their diet.

Conclusions: the matter of adopting a healthy diet combined with physical activity is a concern for Portuguese families. One of the greatest challenges consists of empowering individuals to make healthy choices in terms of physical activity and food, adapted to their biological, environmental and cultural reality.

Impact of the Financial and Socioeconomic Crisis on Public Health

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ABSTRACT

It is still early to realise the extent that the financial, economic and social crisis will have at a global and even national level. Experiences of previous crisis situations have shown that there is a relationship between levels of health, education, employment and social protection. Scientific evidence has also shown that the frequency and severity of communicable and chronic diseases tend to increase when health systems lack the necessary resources.

In the short term, families with lower income may not be able to purchase medications, may postpone medical appointments and, simultaneously, the risks in terms of mental health and violent behaviours may increase. On the other hand, there may be situations of poor diet, malnutrition and increase in some risk behaviours, such as drugs and alcohol consumption.

The impact of the crisis may also be felt at the level of health services, which can be pressured, either by an increased demand for the public sector or by a reduction in health budgets. Health responses to the crisis: main conclusions: It is possible to identify, in the short term, the more immediate problems that may result from a stronger and/or wider crisis situation, with potential consequences on health. Times of crisis require immediate and effective responses, therefore it is not possible to fight against all problems at the same time. The following three areas of action were identified in this first work phase:

- a. Protection of the citizens at risk of poor nutrition situations;
- b. Promotion of mental health, fighting against possible situations of depression or increased violence;
- c. Access to care and medication.

Within a context of socioeconomic crisis, it is essential to develop measures in four distinct areas towards: 1) a better monitoring, through sentinel indicators, designed from an information quality perspective; 2) a better analysis, addressed at parameters consistent with a contingency plan; 3) more applied research, regarded not as something redundant, but rather as a true health response to the crisis; 4) a targeted action to minimise the impact of the crisis, namely at local level.

These are the objectives which led to the creation of a working group,

at the Directorate-General of Health, in partnership with the National Public Health School, whose mission is to monitor the impact of the crisis and set up intervention strategies. The presentation will focus on describing the work already done.

"Before You Get Burnt" - Peer Education Intervention carried out at the Festa das Latas 2008 in Coimbra, in a Street Context

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ABSTRACT

"Before You Get Burnt" is a Peer Education project for the prevention of alcohol abuse and promotion of risk-free fun. It is a street intervention with the goal of reducing the consumption of alcoholic beverages and increasing adherence to sexual protection and road safety measures. It consists of individual peer-to-peer counselling strategies for the reduction of harm related to alcohol abuse by students participating in the academic festivities of Coimbra (acute alcohol intoxication, unprotected sex, road accidents). It also includes awareness-raising campaigns before the parties, and distribution of condoms, blood alcohol assessment and STI risk, provision of first aid and safe transportation during

the nights of the festivities. The message is «Act responsibly before you get burnt» using Freirean dialogic approaches.

Objective: the objective of this research is to describe the profile of the students who attend academic parties and were subjects of the Peer Education intervention during the "Festa das Latas 2008", in Coimbra, which took place between 23 and 29 October.

Methodology: the methodology used was a descriptive analysis of the data obtained through the questionnaires which were on the basis of the peer-to-peer intervention.

Results: the results obtained show that students drink too much on the nights of academic festivities, going far beyond what is considered a healthy consumption and engage in risk behaviours, including at the level of sexual activity and dangerous driving. It was found that 552 of the students surveyed reported that «I drink before and during the party» and that, as to the last academic party, 85% (n=401) of male students and 72% (n=261) of female students reported they got "drunk", with 177 male and 117 female students reaching a state of acute alcohol intoxication "because I wanted to".

Conclusions: therefore, the peer-to-peer counselling intervention may be useful in order to educate the target students towards moderation and self-responsibility.

Topic

ENVIRONMENT – WATER

By-products of water disinfection for human consumption: summary and characterisation, implementation of analytical methodologies and characterisation of potential genotoxic effects with an impact on health

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ABSTRACT

Polycyclic aromatic hydrocarbons (PAHs) are compounds with a high mutagenic and carcinogenic potential and have also been classified as endocrine disruptors. Although it is known that in the process of water disinfection by chlorination small amounts of chlorinated derivatives of these compounds are formed, the information on their genotoxic and carcinogenic potential is very limited.

The objectives of this work were to summarise and characterise the main chlorinated derivative of benzo[a]pyrene (BaP), to develop analytical methodologies for its quantification in water samples and evaluate its genotoxic effects in human cells. The aim was also to prepare and characterise the main chlorinated derivatives of fluoranthene (Fluo) and evaluate the formation of chlorinated derivatives of BaP and Fluo in the chlorination process of water intended for human consumption. The BaP chlorination reaction was first performed by adaptation of the Mulder *et al.* method, using copper dichloride in carbon tetrachloride. A new method was also developed, involving the use of a two-phase system of sodium hypochlorite and a phase transfer agent. 6-chlorobenzo[a]pyrene (6-Cl-BaP) was obtained as the major product of chlorination, by both methods, with yields of 82 and 96%, respectively. 6-Cl-BaP was isolated by semi-preparative liquid chromatography and characterised by nuclear magnetic resonance and gas chromatography with a mass spectrometry detector. The use of the method developed for the Fluo chlorination resulted in the formation of two products, the structures of which are presented herein.

The formation of chlorinated derivatives of BaP and Fluo in aqueous samples subject to chlorination conditions equivalent to those used in water treatment plants was verified at 30 min, 4 h and 24 h contact times. An analytic methodology was also developed and validated for liquid chromatography, using a fluorescence detector for quantification of 6-Cl-BaP in water samples, with a limit of detection of 0.0032 µg/L.

The genotoxic effect of 6-Cl-BaP was characterised in comparison with that of BaP, using the comet assay in human cells. The results revealed that 6-Cl-BaP has a detrimental effect on the DNA molecule which is higher than that of BaP itself, suggesting a more powerful genotoxic effect. In conclusion, the results of this work confirm the possibility of existence of Cl-PAHs with possible genotoxic effects in water intended for human consumption. Their presence may thus have an impact on human health and constitute a public health problem, the extent of which is underestimated.

Quality of surface waters in the Hydrographic Basin of the Rivers Vez, Labruja, Gadanha and Ancora - Situation Diagnosis

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ABSTRACT

Over the past few years, and in the course of sanitary surveillance activities, a degradation of water quality in the bathing areas of the Rivers Vez, Labruja, Gadanha and Ancora has been verified. Since this situation has motivated the ban of these bathing areas, and given that some of these rivers are subject to water abstraction, a diagnosis of water quality was conducted in the hydrographic basins of these rivers.

Purpose and Objectives: To contribute to the reduction of health risks associated with the use of surface water. To know the quality of rivers' water, along their course. To know the spatial variation of water quality parameters in the hydrographic basin of the rivers.

Methodology: based on the identification of the pollution sources in the corresponding hydrographic basins and the analytic history, it was decided to research the following microbiological parameters: *Faecal Coliforms*, *Total Coliforms*, *Faecal Streptococci* and *Salmonella*.

The sampling stations were selected according to the following criteria: short distance from the spring; located upstream and downstream from urban centres, industrial areas, livestock production facilities and areas of intensive agricultural activity; located downstream from the confluence with brooks; located downstream from WWTP or places where discharges of untreated effluents of domestic origin occur.

A single sample was taken from each of the selected sampling stations, between the months of July and August 2007.

Results: 43 samples were taken.

With regard to the Faecal Coliforms, Total Coliforms and Faecal Streptococci parameters, and in general, quality deteriorates from upstream to downstream, and in the extent of the increase in pressure from human activity.

67.4% (29/43) of the samples tested positive for *Salmonella*. Its presence is not consistent with the distribution presented for the remaining microbiological parameters. 41.4% of *Salmonella* (12/29) were serotyped, and it was possible to identify the Abony, Bardo, Enteritidis, Ndolo, Nesziona, Salamae and Sendai serotypes.

Conclusions: the identified *Salmonella* serotypes are pathogens and have already been isolated in humans.

The presence of *Salmonella* has been a determining factor in the banning of bathing areas in the district, and in the pressure for the adoption of risk management measures. This is a parameter that is not quantified in the laboratory and the new bathing water directive does not provide for its inclusion in the classification of bathing areas.

What is the position of the Public Health Services in view of this reality?

High Concentrations of Arsenic in Public Water Supply Systems, in the Tagus Wetlands: Their Effects on Human Health

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Keywords: Water, arsenic, human health

ABSTRACT

The current situation: excessive concentrations of arsenic in water.

Following the activities undertaken within the scope of the Sanitary Surveillance Programme on Water for Human Consumption (PVSACH - Programa de Vigilância Sanitária da Água para Consumo Humano), the presence of arsenic was detected in amounts exceeding the parametric value (10 µg/l) adopted in Portugal, in some municipalities of the district of Santarém. Although these values were slightly above the Maximum Contamination Level allowed, it was decided to proceed to their systematic research over the year 2007, at the municipalities of the Tagus Valley that presented similar geological characteristics.

Thus, the SPC – supplementary physical-chemical – analyses inherent to the PVSACH were followed by the research and quantification of arsenic in water, by performing two tests on each supply system of the target municipalities.

Health consequences of exposure to arsenic in water: The World Health Organization (WHO) recommends that the levels of arsenic in water for human consumption should be increasingly reduced due to the possibilities of arsenic accumulation in the body, its toxicity even in low doses and its proven carcinogenic effect. Justification of the study: Taking into account the values obtained and given the recent reassessments of the effects of human exposure to arsenic, indicating that its intake at low

concentrations may be more harmful than previously thought, it becomes necessary to carry out an epidemiological study that may provide data resulting from the analysis of biological samples collected from exposed individuals, in order to be able to relate them to situations of health/illness occurred in those populations and to determine the consequences of exposure to their health.

Following these events, the Deputy Regional Officer of Health (ADRS) met with the officials of the Environmental Health Division of the Directorate-General of Health, which concluded that it is possible and desirable to establish a partnership in order to identify:

- individuals subject to a cumulative arsenic exposure, likely to endanger their health;
- the consequences for human health resulting from a prolonged exposure to this product.

Therefore, taking into account the potential risks to the health of citizens associated with this problem, it is justified to conduct an epidemiological study titled “High concentrations of arsenic in public water supply systems, in Tagus Wetlands: their effects on human health.”

Assessment of the structural and functional conditions of swimming pools in the North Region

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ABSTRACT

In 2005 the then Regional Public Health Centre of the North developed an Access® database – SisPools – as a support tool for the sanitary surveillance of swimming pools in the North Region. This database intended to contribute to a better risk assessment in swimming pools, through a full knowledge of the facts relating to the registration, structure and operation of swimming pools, as well as analytic monitoring data. It has three hierarchical levels – municipal, district and regional.

By the end of September 2008, 508 swimming pools were registered (with a total of 826 tanks), and there was still a lack of data from some municipalities.

This work presents the main results, noticing that there is a severe lack of training/information on the part of swimming pool managers, as well as that, despite various efforts, there is still a lack of standardisation of procedures, both by the public health services, as in particular by the swimming pool managers. The main deficiencies found are the following:

- Proper water treatment;
- Accessibility (namely for citizens with disabilities);
- Maintenance of structures and equipment;
- Water quality.

From the recorded data and diagnosed needs, training and information sessions will be held (for swimming pool managers and staff connected to water treatment), and procedural standards will be disseminated (through circulars, service orders and flyers).

Topic

FOOD HABITS

“PASSE – Programa de Alimentação Saudável em Saúde Escolar” (Healthy Eating Programme within School Health)

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ABSTRACT

PASSE is a programme that operationalises the development of projects regarding the health determinant “healthy eating”, according to the

objectives of the National School Health Programme (PNSE). Activities are addressed in an integrated, intersectorial and multidisciplinary way. This regional programme is based on the work of ecological and social learning theories and aims for the school to provide food that promotes health; for the hidden curriculum to be consistent with the explicit one; for the school community to be engaged in the improvement of food supply in the extra-educational spaces, namely in the vicinity of the school; for students to acquire decision-making skills, particularly in terms of food, and to develop attitudes and beliefs towards conscious and responsible choices.

Results: after validation of the dynamics during the school year 2007/2008 and training of over 120 health and education professionals and other public and private partners committed to implementing this programme, this school year 2008/09 it counts on 44 3rd grade PASSE classes, 130 curricular PASSE classes and 34 PASSE health professionals teams in the North Region. The monitoring and evaluation of the programme are underway and we expect, by the end of this calendar year, corresponding to the 3rd evaluation moment six months after the end of the intervention, to obtain results with regard to the process, knowledge, attitudes and behavioural intentions.

Discussion and conclusions: this programme's main potential is the fact that it is a structured model, ready to be implemented, and that it provides materials already prepared in digital format; it standardises procedures for Primary Care Centres' teams; it involves multidisciplinary teams, allowing the real participation of different areas of knowledge in Primary Care Centres; it involves the whole school community and is a reciprocal stimulus (health/education) for the implementation and continuous evaluation of the project; it makes it possible to speed up the implementation of healthy eating promotion programmes.

Food at Schools: is it safe?

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Keywords: food, schools, quality

ABSTRACT

Microbiological surveillance of ready-to-eat food is an area of great interest in public health, aiming to ensure food hygiene and work on the prevention of food-borne diseases.

The control of microbiological quality of ready-to-eat cooked food of collective catering establishments is an important assignment of the Microbiology Laboratory of the Food and Nutrition Department at the Dr. Ricardo Jorge National Health Institute (INSA). Among those establishments, highlight can be given to the set of school canteens, at the level of preschool and 1st cycle of basic education.

Due to their specificity and sensitivity of the target population, the analytic results obtained in these units require a more detailed analysis, as well as due consideration.

The analytic results were therefore treated, for a total of 264 samples collected in the Greater Lisbon area, in schools controlled by this Department, at the request of the Municipalities, during the year 2008.

The samples correspond to the meals served on the day of collection, which occurred during the normal delivery period, i.e., between 11:30 am and 2:00 pm. These were analysed for a set of microbiological parameters, including hygiene and pathogenic microorganism's indicators. The analysis of the results was performed according to the values set in the "Guide values for evaluating the microbiological quality of ready-to-eat foods prepared in catering establishments" published by INSA, in which meals are classified under three groups, Group 1, Group 2 and Group 3, depending on their ingredients and/or cooking method.

The assessment of the microbiological quality was performed at four levels, having reached the "Satisfactory" level in 41% of samples, "Acceptable" level in 36% and "Not satisfactory" level in 23% of them. The other level, called "Unacceptable, Potentially dangerous", was not revealed in any of the samples.

It was concluded that, despite the investment made by City Councils in equipping their units with facilities and equipment that may ensure food safety and the implementation of food safety plans by concession companies, in response to legislation and the responsibility assigned to them by the latest European regulations for the sector, the analytic results point out to a significant percentage of meals having a "Not satisfactory" level of quality, which strengthens the need for greater control by the competent authorities and greater involvement of the stakeholders.

PROJECT pão.come

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ABSTRACT

The strategies included in the National Health Plan point towards an intervention on health determinants as one of the priorities of health services, so that improvement goals can be achieved with regard to diseases with a greater impact on the population.

As cardiovascular and cerebrovascular diseases are a priority health problem in developed countries and are the leading cause of death in Portugal, the Regional Health Administration of the Centre, through its Department of Public Health, considered developing a community intervention programme, which could effectively contribute to improving the well-being of the region's population.

Description of the study:

Objectives and methodology: the pão.come community intervention project has the reduction of added salt in bread (from 2% to 1%) as its operational objective.

It was designed by ARS Centre in 2006 with a methodology aiming at a gradual reduction of NaCl in two years (4-phases decrease) and with a 10-year evaluation process (follow-up).

The 1st phase, which took place in 26 municipalities, started in February 2007. It is currently (March 2009) being developed in 62 municipalities – 8 of which belong to other catchment areas, and the inclusion of new districts in the Centre Region is foreseen for this year.

Results of the last project evaluation - reporting to December 2008

- Population coverage rate of 77% of the population of the Centre Region;
- More than 700 bakeries involved (in an estimated universe of about 1000 bakeries);
- Over 2000 analyses carried out;
- More than 150 public health professionals involved;
- Analytic monitoring by the 6 Public Health Laboratories of ARS Centre;
- Regional average of NaCl per 100 g of bread – 1.04 g in the 2nd phase of the project (aggregate assessment data of 1st and 2nd group municipalities).

Conclusions: this project proved to be cost-effective when compared to a simple applicability methodology, being supported by the regional public health services network, structured at a national level, which allows it to be replicated at the country level.

It also proved to be innovative both at national and international level, surpassing in a short period of time the established targets.

It will also allow, in its final phase, a reduction in the global salt intake of about 1.2 g, which will correspond to about 10% of the amount of salt (NaCl) ingested by the Portuguese population. It will present health gains translated by a reduction in premature mortality due to cardiovascular diseases.

Aguarela Alimentar e Movimento (Food Watercolour and Movement) - Preliminary results of the training needs diagnosis.

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ABSTRACT

Objective: diagnosis of training needs, in the area of Food/Nutrition and Physical Activity, of Primary Healthcare physicians and nurses from the Regional Health Administration of the North, in order to prepare a training programme suitable for the identified needs.

Methodology: the ARSN promoted the implementation of the "Aguarela Alimentar e Movimento" project that was based on "Aguarela Alimentar" (Food Watercolour) of the Regional Health Administration of the Centre, and counted on the cooperation of the IDP/FADEUP. In the diagnostic phase, a direct administration questionnaire, adapted after

the pre-test, was applied, with questions about the type of training the respondents had already attended and wanted to attend, taking into account the different areas of interest and their level of knowledge. It was also possible to characterise the eating habits of the participants which constituted a random sample of 20% of the target population.

Results: the response rate was of about 60%. Most respondents (80%) reported not having received specific training in the area of food/nutrition, in the last three years; 87% needed training and 76% would prefer it to be both theoretical and practical. The greatest need for training emerged in the areas of food for specific populations (52%); methodologies for counselling on nutrition (54%) and motivation strategies for changing eating behaviours (60%). In terms of physical activity, most respondents (94%) reported not having received specific training in the last three years; 79% needed training and preferred it to be both theoretical and practical. The areas of greatest need for training were at the level of methodologies for counselling on physical exercise (55%) and motivation strategies for changing behaviours (56%).

Conclusion: a healthy diet and regular physical exercise, as basic weapons for prevention and treatment, require specific training targeted to the needs of healthcare professionals.

“Saber Comer para Melhor Crescer” (Knowing how to eat in order to grow better): Project - Nutritional Assessment and Counselling Programme

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Keywords: obesity, child, programme, school

ABSTRACT

Objectives: the Odivelas City Council (CMO), in partnership with the

School of Health Technology of Lisbon - Dietetics, with the Curry Cabral Hospital (HCC) - Multidisciplinary Childhood Obesity Appointment Service, and currently with the Vocational Training Centre for the Food Industry, implemented the Nutritional Assessment and Counselling Programme (PAAN - Programa de Avaliação e Aconselhamento Nutricional), which has as main objectives to decrease the Child Overweight and Obesity indicators among the preschool population, and also to diagnose the situation of the Municipality of Odivelas in terms of Childhood Obesity, with the prospect of outlining a joint intervention strategy in the municipality according to the actual needs.

Methodology: it is an integrated health education programme, which includes the screening, diagnostic, nutritional counselling and treatment phases, as well as the conduction of awareness-raising and training and information sessions on the issue of Eating, Childhood Obesity, and Food Hygiene and Safety. It enables an immediate and customised intervention in cases of nutritional risk detected in the meantime (underweight, overweight and obesity).

Results: in 2007, an assessment was carried out on the nutritional status of 641 children, from 27 educational facilities; it revealed that 1.4% of the children were underweight, 64% were eutrophic, 15.7% were overweight and 18.9% were obese. Of those, 86.8% were referred to the Dietetics Appointment Service at the Odivelas City Council/Division of Health and Prevention of Drug Addiction, and the remaining 13.2% were referred to the Multidisciplinary Childhood Obesity Appointment Service, at the Curry Cabral Hospital.

Conclusions: this ongoing and comprehensive partnership was and is currently developed with the belief that it provides clear benefits to the child population of the Municipality of Odivelas, in the area of health promotion and education, especially because it is a major step towards the prevention of Childhood Obesity.

Topic

INFORMATION

Health Profiles: from information and communication in health to health planning

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ABSTRACT

The “Health Profiles” project, started in September 2007 by initiative of the Department of Public Health of ARS North, is inspired in the “Health Profiles of England” project (started in 2006). However, the “Health Profiles” concept (as a trademark), evolved in a different direction from that of its English counterpart. Thus, its main objectives are: to promote health, by promoting health advocacy and health literacy; to support health planning, by informing decision-making at regional and local level. The “Health Profile of the North Region” (the first “product” of this project) was built from the selection of a set of demographic, socioeconomic and health indicators and the identification of the corresponding sources of information, allowing to organise and “give meaning” to multiple data, usually scattered, and to turn them into useful (usable) and meaningful information for multiple recipients, inside and outside the health sector. It also undertakes specific communication objectives, and therefore seeks to combine the rigour required of a technical document, the use of a language accessible to a wider range of “audiences” and the choice of a format that favours, as much as possible, the “clarity of the image” and reduces the text to a set of “key messages” that help decode and make sense of the images (graphs, tables, maps...) used. It has a dynamic nature, so it is constantly under construction and updating, and open to all those who produce data and information on the health of the North Region population and its determinants. Currently,

the “Health Profile of the North Region” is, above all, a health information and communication instrument, and a support tool for health planning at the regional level.

The main “products” of this project are: the “Health Profile of the North Region”, in its hard-copy (published in 2008), electronic (available on the ARSN portal) and interactive (under construction) versions; the “Local Health Profiles”, built together with the local public health services, at the level of the Groups of Primary Care Centres (under construction); a specific e-mail address for the different partners to share relevant information on health (under implementation).

Making information on health and its determinants accessible and meaningful to the most diversified possible range of recipients can potentially become a tool for health promotion and support to health planning at regional and local level.

Knowledge and attitudes towards genetic research and the establishment of a biobank in Portugal

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ABSTRACT

Objectives: to evaluate the degree of basic knowledge about genetics of the Portuguese adult population and to know their opinion on the establishment of a biobank in Portugal. We also tried to assess the attitude of the population with regard to the participation in a genetic research study, as well as the factors that would motivate people to participate.

Methodology: the study consisted of a telephone survey conducted in

January 2009. The ECOS sample (“Em casa, pelo telefone, observamos saúde”, meaning “at home, by telephone, we monitor health”) was used, consisting of 870 housing units (HU). The questionnaire, consisting of 13 questions, was applied to one element of each HA aged 18 or more. The data of this survey were analysed using the SPSS v17.0 software. The weighted sample, by region and gender, was used to describe the estimates of knowledge and participation of the population. The method of ordinal logistic regression was used to examine the factors associated with the participation of the population in genetic research studies.

Results: the response rate to this survey was 87%. On the interaction between genetic factors and the environment in the development of certain diseases: 64.4% of respondents revealed having good or very good knowledge; 16.4% showed reasonable knowledge, while 13.7% showed little or no knowledge on the subject. 87.3% of respondents agreed that genetic research can contribute significantly to the prevention of diseases and only 1.3% disagreed with the statement. With regard to the willingness to participate in a study for genetic research purposes implicating blood donation: 64.1% of the population would be willing to participate; 16.7% said they would like to, but thought they could not (due to age or illness); 13.5% stated they would not participate in such a study. Donating blood was the most cited reason for non-participation (35.7%). According to the ordinal logistic regression analysis, the individual characteristics that promote participation are: being 25-44 years old, having attended higher education, agreeing with biomedical research and having “very good” knowledge of genetics. In their majority (88.8%), participants would not mind if their samples were stored in a biobank for a long period of time and used for other studies in the future.

Conclusions: the Portuguese population is of the opinion that genetic research has an important role in disease prevention, has reasonable knowledge regarding the effects of the interaction between genes and the environment in the development of certain diseases, and would participate in a study to determine that type of interactions.

Health of the Portuguese people in the European context

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ABSTRACT

Description of the study: The need to compare data, or to establish the relative positioning, be it of organisations, regions or countries, against any parameters, is an exercise whose origin goes back to a very distant period in history. Nowadays, this practice is increasingly recurrent and fundamental, be it by those who regularly produce information, or by those who carry out research, in the various fields of knowledge. The risks inherent to this diligence are not negligible. It is nevertheless pos-

sible to use a set of principles and techniques that make comparisons more reliable. However, there are still sources of error, not always easily identifiable, inherent to the process of data collection and treatment, which may undermine their comparability.

As regards the area of health information at the level of international organisations, a set of procedures was developed and improved which, by providing a more accurate approximation, with regard to data comparison, also allow us to make sure that the steps undertaken to this end are valid, and that the inherent risks can be minimised. There are however extensive explanatory notes that accompany any comparison, in order to clarify the observable differences, whichever may be the reasons they are attributed to.

Within this context, we propose to address the following themes:

1. Potential and limits of comparison

Learning from others;

Comparability requirements: common definitions; samples and similar methods of collection; similar professionals and organisations; comparable treatment and analysis methods.

2. The sources of the data used (sources and quality controls)

International organisations: WHO; OECD; EC (Eurostat; DGSanco; ECDC, etc.);

Multicentre studies; Cooperative studies.

3. ECHI – European Community Health Indicators:

Selected indicators;

In search of comparability;

4. Hierarchy of available indicators:

Mortality;

Morbidity recognised by physicians;

Observations (direct information);

Administrative data;

Self-reported information.

5. Who we compare ourselves with: (illustrative examples)

European average value?

Each MS of the EU?

More “similar” countries. With regard to location? With regard to standard of living? Other parameters? Which?

6. Conclusions

Avoid «awarding medals»;

Never forget the fundamental determinants (social and economic development);

Favour evolution over comparison;

Assess the relevance and quality of the indicator before using it in comparisons.

Topic

MENTAL HEALTH

Psychoactive substances consumption in Portugal: evolution from 2001 to 2009

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ABSTRACT

A summary is presented with the results of epidemiological studies developed by the IDT, or by universities within the scope of protocols signed with the IDT, in various population groups, in order to characterise the phenomenon of psychoactive substances consumption and monitor its developments so as allow the definition and adjustment of policies and practices to the dynamics of reality.

A reference is made to data on consumption prevalence's and patterns of alcoholic beverages (beer, wine, spirits, alcohol in general and alcohols), illicit drugs (cannabis, ecstasy, amphetamines, LSD, hallucinoge-

nic mushrooms, cocaine, heroin, inhalants), medications (anxiolytic-like, antidepressants and tranquillisers or sedatives) and tobacco. Also some typologies of consumers of the various groups of substances are presented.

Firstly highlighted are the results of the “National Survey on the Consumption of Psychoactive Substances by the Population in General – Portugal 2007”, conducted on a sample of about 15,000 individuals, with representativeness guaranteed at National, NUT1 (Mainland, Azores and Madeira) and NUT2 (North, Centre, Lisbon and Tagus Valley, Alentejo and Algarve) level. These results are compared with those of the equivalent study carried out in 2001.

Following are the results of studies conducted among adolescents, the “National Survey in School Environment 2006 – 3rd Cycle of Basic Education and Secondary Education”, performed on samples of about 35,000 students each, representative at the level of NUT1, NUT2, NUT3,

Districts and some Municipalities (District capitals, Greater Lisbon and Greater Porto). These results are compared with those of the equivalent studies carried out in 2001.

Reference is also made to the results of the study conducted among the inmate population – “Drugs and Prisons in 2007”, and these are compared with those of the equivalent study carried out in 2001.

Finally, we present the “Estimates on Problematic Drug Consumption” conducted for the years 2005 and 2001.

Waiting for the Train at the Bus Stop: Some Considerations on Stress in the City

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ABSTRACT

The exponential growth of urban areas and the large number of stimuli, codes and barriers that city inhabitants face every day make it imperative to study the urban health determinants and their implications on quality of life. Stress, as the result of such contact, has important implications on the life of an individual, reaching the personal, family, social and labour spheres, among other. It is therefore and increasingly a concern for public health, which requires an analysis of the environmental, urban and social aspects associated to it, as well as the study of individual characteristics that contribute to this phenomenon.

The conclusion that the experience of the urban environment has a fundamental impact on the health and quality of life of people living in cities led the Municipality of Seixal to join, in 1998, the Healthy Cities Project of the World Health Organization (WHO), having developed a wide range of interventions, covering the environmental, urban and behavioural fields, health services, vulnerable groups, etc. and which are gathered in the Health Development Plan of the Municipality of Seixal. Within the context of this Health Plan, a study was promoted involving 668 individuals of both genders, aged between 18 and 75 and residing in the metropolitan area of Lisbon, which tried, among other things, to determine the impact that stress had on their health and quality of life. Negative correlations were found between the scale designed to assess urban stress (Urban Stress Questionnaire, by Aguiar e Ribeiro, 2004) and the WHOQoL_bref (WHOQoL Group, 1998), employed in the evaluation of satisfaction with regard to health and quality of life, not only in terms of the total value of the scales [$r=-0.41$ ($=0.001$) for quality of life and $r=-0.31$ ($=0.001$) for satisfaction with regard to health], but also between all subscales of both tools. The results therefore suggest that individuals who experience higher levels of stress in an urban environment have a worse satisfaction regarding their health and a poorer perception of their quality of life.

A more detailed analysis of the results found allowed setting up specific intervention strategies, which have been made operational through a component of the Healthy Seixal Project and which we called Healthy Urban Planning (PLUS - Planeamento Urbano Saudável). PLUS means planning for people, i.e., putting the needs of individuals and commu-

nities at the centre of the urban planning process, always taking into account the implications that decisions may have on the health and well-being of people (Barton & Tsourou 2000).

Municipal Strategic Plan for the Prevention of Drug Addiction

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Keywords: drug addiction, primary prevention, plan, municipal

ABSTRACT

Objectives: to develop a comprehensive, ambitious, creative and continuity action in terms of Prevention of Drug Addiction and Other Risk Behaviours, within the scope of Primary Prevention in the areas of research, information/training and intervention, marked by quality/effectiveness and suitability to the real needs identified;

To foster cooperation/partnership relationships with local/regional/national entities, be they public or private, which directly or indirectly develop an activity in this area, including IPSSs, in the interest of having supplementary interventions and compliance with one's own powers/competences;

To involve schools, associations of various kinds, companies, the media, security forces, focusing particularly on families, encouraging an active pooling of efforts/cooperation;

To favour the proper optimisation/management of the available resources, trying to avoid overlaps through the development of similar initiatives and stimulating the search for new forms of funding, including access to specific lines/programmes for this purpose.

Methodology: implemented in a phased manner, on an annual basis (school year), the Municipal Strategic Plan for the Prevention of Drug Addiction (PECPT) is continuously in force according to the following model schedule (October – Beginning of the activity; October to June of the following year – implementation of programmes/projects in different Areas of Action; July – Final evaluation of the work developed; August and September – preparation of the work to be developed in the following year, according to the assessment made.

Results: being currently in its 3rd year, it has been possible to develop more than two dozen projects, inter alia, in the areas of Prevention in School, Family, Leisure/Recreational Spaces and Labour, covering thousands of residents. Through the annual evaluation process, most of the projects implemented achieved the proposed objectives, with clearly reduced direct costs. It was possible to develop a comprehensive Training Programme, for the Partners of the PECPT, promoting the increase of professional skills in the area of Education for Health.

Conclusions: this Partnership Network undoubtedly constituted an added-value in terms of the municipal activity in this area. The current intervention at this level has a solid working ground, capable of providing a more efficient/effective response to the problems in this field and also of ensuring the sustainability of future actions.

Topic

MORTALITY

Mortality due to ill-defined symptoms, signs and affections (2000-2004): Municipal variation and association with mortality due to specific diseases

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ABSTRACT

This work aimed to study the municipal distribution of mortality due to ill-defined symptoms, signs and affections, as well as to analyse its association with mortality due to several disease groups.

The geographic variability of mortality due to ill-defined causes may indicate different criteria for assigning causes of death by certifying physicians, which may differentially influence the attribution of death to some specific causes.

In this study, mortality due to ill-defined symptoms, signs and affections (disaggregated by gender and municipality of residence) was analysed in the form of an annual average (2000-2004). This rate was previously standardised by age using the direct method and adopting as default the Mainland population in 2001. The municipal distribution of such rate was assessed through thematic maps and compared (based on

correlation analysis) with the municipal distribution of mortality due to specific disease groups, including those of the circulatory system, of the respiratory system, malignant neoplasms and some sub-causes included in the above mentioned groups.

In the 2000-2004 period, deaths attributed to ill-defined causes accounted for approximately 11% of deaths of Mainland residents. Mortality rates due to these causes presented higher values in some municipalities of the interior North and Centre regions, and lower values in the region of Lisbon and Tagus Valley.

The research revealed that different practices in coding causes of death influenced the mortality rates due to all diseases, with greater consequences on those of the circulatory system. This was proven by the existence of a significant and negative correlation ($r=-0.42$; $p<0.001$) between the municipal mortality rate due to ill-defined symptoms, signs and affections and the municipal mortality rate due to circulatory system diseases (related to both genders). This result confirms the results of other studies (Oliveira *et al.*, 2005) which state that a high proportion of deaths coded as ill-defined causes indicate the need for correction of the rates of mortality due to specific diseases, such as cerebrovascular diseases and ischemic heart disease. According to the findings made by Caridade *et al.* (2003; quoted by Melo, 2006), approximately 13.5% of the deaths attributed to ill-defined causes actually corresponded to deaths due to circulatory system diseases.

Relationship between mortality (1980 to 2004) and hospital admissions (2000 to 2005), and the burnt area, in Mainland Portugal: cross-correlations of the residual series [Impact Project - FCG]

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ABSTRACT

Introduction: Over the past few years there have been several researches that aimed to relate fires with mortality or morbidity by analysing changes, in the short term, in the number of hospital admissions or on population groups considered particularly sensitive to respiratory stress (COPD or asthma), as well as in the exposure of individuals with certain professions. This is a phenomenon that has been positioning itself as a serious problem of great magnitude and importance, and its aggravation is foreseen for the near future, directly or indirectly affecting the populations, not only locally, but also at other scales. The objective of this research, although being aware of the reliability and discussion that such results may raise, was to verify the existence of a relationship between mortality and morbidity, and the burnt area.

Material and methods: Time series modelling was used for mortality (1980 to 2004) and hospital admissions (2000-2005) as well as for the total daily burnt area (1980 to 2004 and 2000 to 2005) in Mainland Portugal and by NUTS II. These models were set up through the “create models” module within the “expert modeller” application of the SPSS 16 programme. The Ljung-Box test was used to test the hypothesis of autocorrelation between the residuals. Finally, cross-correlations were determined between the residuals resulting from the time series models for mortality/morbidity and the burnt area, in order to obtain the lags for which there is significant correlation.

Results: by analysing the correlations between residuals derived from the burnt area and mortality series, it was possible to verify that the highest mortality values in Mainland Portugal appear with a delay of one day in relation to the highest values of burnt area; the same analysis by Regions (NUTS II) obtained a similar result, with a delay of one day in relation to the burnt area and/or simultaneously (on the same day). For morbidity data, after analysing the correlations with 7 days lags, it was found that no positive correlation had occurred. There was an attempt to extend the analysis to 90 days lags, however it was still not possible to establish any pattern providing any evidence of a positive correlation between the values of hospital admissions and the burnt area.

Conclusions: as the smoke from forest fires consists of various respiratory irritants, such as aldehydes, particles, acid aerosols, among

other components, it is easily noticeable that its intense and/or frequent occurrence may have implications for public health, demonstrating the pertinence of studies about this topic. Overall, by examining the correlations between the residuals of burnt area and mortality series in Mainland Portugal between 1980 and 2004, this study helped to identify, both in Mainland Portugal and by NUTS II, after removing the proportion explained by cyclic phenomena, the existence of a relationship between the occurrence of forest fires and the number of deaths. As for the relationship between morbidity and the burnt area in Mainland Portugal, both for models regarding observations in Mainland Portugal, and by NUT II, contrary to what would be expected, no evidence was found of such relationship. This new approach, although still at an embryonic stage, is vital for the analysis of a set of data with a seasonal pattern, as it allows excluding the seasonality of the occurrences.

mort@idades: a software tool to support health planning

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ABSTRACT

Mortality is considered a direct measurement of healthcare needs, reflecting the global burden of disease on the population, not only in terms of the incidence of the disease, but also of the ability to treat it. Hence the importance of mortality indicators in the process of health and health services planning. It is therefore important to develop computer tools that allow all those involved, at different levels (national, regional and local), in planning and decision-making processes, to access relevant health information (in this case, on mortality) in a simple, affordable and user-friendly way.

This work resulted from a collaboration between the Health Planning Unit of the Department of Public Health (DSP) of the ARS North, and the Division of Epidemiology of the Directorate of Epidemiology Services and Health Statistics of the Directorate-General of Health. It is also included in the communication strategy for Public Health that the DSP has been developing.

Three software applications that allow an analysis at different levels were developed with the purpose of studying mortality in the North region from 2001 to 2005:

- mort@idades.GERES – the analysis of general and specific mortality aims to characterise the geographical distribution of different causes of death in the North region. It uses age standardised mortality rate to observe the evolution of each of the causes over those five years and to make a comparative analysis, resorting to visualisation through maps, between different territorial units of the region, at the level of NUTS III and Groups of Primary Care Centres (ACES);

- mort@idades.PROP – the analysis of proportional mortality allows identifying, at regional level, the relative “weight” of each cause of death by age and gender group, and its evolution over the five years under review;

- mort@idades.EVITA – the analysis of avoidable mortality analyses a set of theoretically preventable deaths, some considered sensitive to interventions of health services and other to health promotion interventions.

Thus, three software applications have been built and will be made available at short notice on the website of ARS North, so there are still no results related to their use.

For the reasons already presented, it is concluded that these software applications on the analysis of mortality(ies) in the North region can potentially be an important tool to support health planning and, as such, to improve the efficiency, efficacy and effectiveness of the public health practice in the region.

Cause(s) of Death: vital information in Public Health

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ABSTRACT

The first statistics on mortality appeared in the sixteenth century, with an outbreak of plague in Europe.

The concept was later developed by John Graunt (1620-1674) and William Farr (1807-1883), laying the foundations for scientific statistics. The first international lists of causes of death were published in 1890 and, at the time of their first review in 1900, the concept of selecting only one cause for each death was created.

The 1st death certificate appeared in 1925, and was definitely adopted by the WHO in 1948, being used by the countries since 1950, setting up the minimum items to be included in that document.

Statistics are based on the selection of the underlying cause of death on death certificates, with rules and criteria well defined by the WHO and used universally, so that it is possible to compare between countries, between regions and to follow the chronological development of certain pathologies. Statistics depend on the quality of the DCs issued, and the quality criteria are defined, among other, by the number of certified diagnoses and the number of unknown or ill-defined causes.

There is still a long way to go in raising awareness of all those with a role to play in death certification, in order to achieve the best European standards.

Automatic coding programmes have been created and developed to minimise coding errors and to enable a greater comparability between countries.

With the increase in life expectancy, one person may suffer from more than one disease, which makes it difficult to select the underlying cause. Using some examples, efforts will be made to raise the awareness of the participants towards the topic.

1. Brief history, Older statistics, More universal, More systematic
2. Potential
 - Computing rates and proportions, Following-up on the chronological evolution, Facilitating comparative studies
3. Limitations
 - Quality of the certificates, Single cause, Opportunity (discussing the acceptable delay)
4. Future prospects
 - More complete certificates – possibility to study the morbidities mentioned
 - Stricter certificates – fewer deaths of unknown cause
 - Possibility to provide directories
5. Conclusion
 - Investing in quality while completing the death certificates
 - Renewing the interest in mortality

Avoidable mortality in assessing the effectiveness of health services

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According to the statutes of the ARS North, it is up to the Department of Public Health to assess the impact of health services on the health of the population. Thus emerged the need to find a tool that, in a sustained manner, could assure that assessment. The construction of the *mort@idades.evita* software application, included in a more comprehensive analysis of mortality in the North region and in the 2001-2005 period, helped creating this tool. The concept of avoidable deaths was developed in the late 1970s and early 1980s (Rutstein *et al.* 1976, 1980; Charlton *et al.* 1983), and they are considered as deaths theoretically avoidable through preventive (avoidable deaths sensitive to health promotion) or healing (avoidable deaths sensitive to medical care) interventions. The analysis of these mortality rates in different populations allows us to study the effectiveness of health services, and therefore their impact on their health.

An analysis of avoidable mortality was performed in the North region and in the five year period of 2001-2005, at the level of the North region, corresponding NUTS III and ACES, using the *mort@idades.evita* software application. This application analyses the Standardised Mortality Reasons (RPM - Razões Padronizadas de Mortalidade) for a predefined set of possibly avoidable causes of death, sensitive to health promotion and sensitive to medical care, and tests the statistical significance of the differences found, thus allowing to identify potential problem areas which will then be subject to a more in-depth study. An analysis of the evolution of the “relative weight” of avoidable deaths was also carried out for the five year periods of 1989-1993, 1994-1998 and 2001-2005.

That analysis made it possible not only to identify potential problem areas to be subject to further analysis with regard to certain “tracer” conditions (list of potentially avoidable deaths), but also to contribute to the identification and prioritisation of health needs in the region, within the scope of the preparation of the Regional Health Plan of the North 2009-2010. The analysis of the evolution of the “weight” of avoidable mortality in the three five year periods, indicates a higher proportion of avoidable deaths sensitive to health promotion, especially among males. The analysis of avoidable mortality can be used as a tool for evaluating the effectiveness of health services and therefore can be an important support for decision-making and strategic planning in health, at regional and local level.

Dematerialisation of the Death Certificate

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Within the scope of the SIMPLEX, the Directorate-General of Health and the Central Administration of the Health System lead the project that aims to dematerialise the death certificate (DC), involving also the Registry and Notary Services Institute, the Medical Association, the Public Prosecution, the Medical Emergency Institute and the Forensic Medicine Institute.

Death certification in Portugal is performed by physicians in a standardised form, filled in by hand, and the DCs are delivered to the Civil Registry Office, which transcribe them into computer records; this is associated with transcription mistakes, either due to reading difficulties or to failure of the certifiers in their completion.

“The project for Dematerialisation of the DC, which aims to accelerate and dematerialise the issuing process, consists of an electronic DC issuing and management system, through a secure record whose access is limited to professionals with authorised electronic signature for issuing and consulting the electronic certificate. Once the record is standardised at the level of health terminologies and of the minimum set of mandatory data, the analytic treatment of records will benefit from the quality and availability of data. The electronic DC will also help accelerate and dematerialise processes at the level of Public Administration which, in this case, besides the Ministry of Health also involves the Ministries of Justice, Finance and Social Security.”

It is in this context that the Ministry of Health, with the vast majority of the DCs being issued in its institutions, aims to bring together the efforts of the entities involved and improve this process, obtaining benefits for users and professionals.

According to the study “Plan for Transformation of the Health Integrated Information Systems”, conducted by PricewaterhouseCoopers (2007), the following benefits were identified:

- Availability of an online service providing more reliable information;
- The electronic system for causes of death will help determine statistical indicators, including causes of death, in a more reliable and timely manner;
- Direct impact on the updating of the National Health Service's national users database, which will be done directly and in real-time;
- Significant improvement in the management of the services

provided to users, including the management of waiting lists for surgery and appointment;

- The standardisation and dematerialisation of processes avoid duplication of records and administrative efforts, resulting in a reduction of costs and time.

Topic

OCCUPATIONAL HEALTH

Future prospects for the new occupational health

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ABSTRACT

1. Historiographical framework of the evolution of concepts, from labour medicine to the new occupational health.

Starting from an analysis of the main factors that interacted to develop the knowledge and action to protect the health of workers throughout history, special emphasis is given to the development of the productive forces and the evolution of production relations, as well as to the most relevant changes in labour demographics, without failing to mention the contribution of medical and technical knowledge. The involvement of social partners is highlighted.

2. The contribution of laws and regulations, their potential and shortcomings.

The influence of the various legal systems of healthcare provision to workers in the last half century is revised, focusing on the positive contributions and emphasising the aspects for which laws were not effective or were even contradictory to the necessary advances in workers' health.

3. Prospects for future development of the occupational healthcare organisation.

Some components of the New Occupational Health, as well as its concerted and multidisciplinary integrated view of reality in the labour world, are equated prospectively: new professional resources; new organisational structures; new best practices; new supervision, monitoring and control policies; effective participation of the social partners; strengthening of research and training in general; improvement of knowledge and of its dissemination.

The Teaching of Public health at the School of Health Sciences, Minho University (ECS)

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Keywords: education, Public Health, university, Minho

ABSTRACT

Introduction: the purpose of the Degree in Medicine by ECS is to train graduates who, through their cognitive skills, techniques and attitudes

in their work environments and their loyalty to undeniable ethical values, are able to successfully continue their vocational training and be committed to an effort of lifelong upgrading of their career as physicians.

Objective: the aim of this communication is to disseminate the Public Health teaching programme at ECS.

Methodology: the study plan corresponds to an educational process developed in continuum; it provides for the curricular area "Introduction to Community Health" (3rd year), where topics such as Epidemiology, Health Economics, Health Administration in Portugal and Nutrition are addressed, being later resumed, developed and applied in the "Residencies at Primary Care Centres", during the 4th, 5th and 6th year of the degree. The contents of these curricular areas are in line with the recommendations of international organisations in the field of pre-graduate training in Community Health.

Results: since Public Health is the joint effort carried out by society in order to protect, promote and restore the health of the population, at the end of the Training in Public Health, to be held during the "Residencies at Primary Care Centres", the student is expected to know:

- the areas inherent to the professional exercise of the Public Health physician, namely health administration, epidemiology, Occupational Health, Environmental Health and School Health;
- that the professional exercise of the Public Health physician, in harmony with his/her profile, includes: the diagnosis of the health status of the population (or of certain groups), identifying the factors that condition it, namely demographic, cultural, environmental, socioeconomic, individual and service usage characteristics; the submission of projects, and participation in the implementation and evaluation thereof, for health promotion and disease prevention in general population or certain groups; the promotion of health education; the coordination of the collection and treatment of statistical and epidemiological information of interest in health;
- the competences of health authorities.

Conclusions: to achieve the objectives, without neglecting the importance of the cognitive component, it is essential to learn from the study visits, within Scripts, as well as to prepare a research protocol on a Community Health topic (4th year) and its subsequent implementation as Research (5th year), when all students go through Public Health Services in the Northern Region of Portugal, in a "real work environment".

Topic

ORAL HEALTH – ASSESSMENT

Prevalence of dental caries among Basic Education children

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Keywords: prevalence, caries, children, basic education

ABSTRACT

Longitudinal action-research study which aims to describe dietary and

oral hygiene habits, to identify the prevalence of dental caries in this sample, as well as to identify factors associated with the appearance of this pathology.

The sample consists of 138 students of the 1st cycle of Basic Education, attending schools in the municipality of Castelo de Paiva. For data collection we used a questionnaire applied to students in the classroom and a form completed by the health professional during dental observation. Data were analysed using SPSS.

Regarding eating habits, 12.3% and 34.8% of children referred, respectively, they do not ingest milk or dairy products and vegetables on a dai-

ly basis. It is also noted that 93.5% stated they usually eat some kind of treat, of which 6.5% did that every day, mostly between meals (74.6%). Regarding oral hygiene habits, 96.4% of children say they brush their teeth, 47.1% of which twice a day. The prevalence of caries in deciduous teeth is 63% and in permanent teeth 15.9%, while the percentage of 8-year-olds free from caries is 33.8%. The presence of caries in one of

the dentitions is higher in children who drink soft drinks (χ^2 : $p=0.018$). Given these results, health education will be developed, in order to promote the adoption of oral health protective behaviours on the part of these children, and an evaluation is to be carried out during the school year 2008/09.

Topic

ORAL HEALTH – RESEARCH

SiC Analysis - Applied Research on Oral Health in Public Health

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Keywords: Oral health, SiC, research, evolution

ABSTRACT

Objectives:

- To compare targets recommended by the WHO
- To analyse the evolution of Oral Health in the municipality based on benchmarks, and its comparison with previous municipal (2003) and national (2006) studies
- To recognise young people with the highest caries index
- To identify needs for greater investment of resources

Methodology: observation of 12-year-old youngsters of the municipality of Salvaterra de Magos by the Dental Hygienist, in order to determine the DMFT (D), and subsequent determination of the SiC index. The observation was made following the recommended conditions. To determine the SiC index, an Excel® spreadsheet, provided by the WHO website, was used.

Results:

- The average DMFT index is 1.76; (National - 1.48, regional - 0.84);
- The SiC index (average DMFT of the 30% of young people with higher caries index) is 4.05 (national - 1.48, regional - 2.4);
- Only 42% of young people are free from caries in permanent teeth. (In 2006: national - 44%, regional - 63.5%);
- There are youngsters with DMFT=7, which reflects an improvement when compared with 2003, when we found youngsters with DMFT=10;
- It was found that the 70% with fewer cavities have DMFT=2. A detailed analysis was thus performed to 40 young people with DMFT (D) >3;
- As SiC corresponded to the one-third of young people that had a higher DMFT(D), some disparities were identified in the parishes.

Conclusions:

- The prevalence of dental caries in the municipality is high, exceeding the regional and national averages;
- The average DMFT (D) at the age of 12 is 1.76;
- The SiC index at the age of 12 is 4.05;
- The values found first identify a pressing need for the Promotion of Oral Health in the municipality and in the future ACES, with special attention being paid by all those with responsibilities for the population.

Oral Health Information System (SISO - Sistema de Informação da Saúde Oral)

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ABSTRACT

Objectives: the aim of SISO is to collect, organise and manage the different flows of information in a swift, consistent and safe manner.

- **Methodology:** the SISO is being built by the University of Aveiro in close collaboration with the DGS, during the development of the multiple features of the different projects (oral health for

pregnant women, elderly, children and youth). It provides:

- An electronic form for the registration of stomatology and dentistry professionals, through the Web system. The system produces a declaration of commitment that the physician and clinical director of the facility where the service is provided sign, accepting the access conditions. After validation of the registration in SISO, performed by the respective ARS of reference, physicians are then included in a national public list of participating physicians;
- The issuance of the first dentist cheques at the Healthcare Centre and the issuance of the remaining cheques at the offices of the participating dentists;
- The management of the allocation and use of the dentist cheques, confirming the eligibility of the user and the minimum number of treatments depending on the corresponding plan;
- The exchange of clinical information between professionals, family doctor and participant dentist;
- The payment request is a letter generated by the SISO and sent to the ARS listing the cheques used. After validation, an e-mail is sent to the doctor, requesting the issuance of the invoice/receipt, essential for payment by bank transfer. This whole process can be completed in less than 30 days;
- Predefined indicators will be used in the monitoring and evaluation.

Results: the access forms will be presented, as well as the national lists of doctors, the way how to issue and use cheques, the payment procedures and the way to obtain real-time data, at the national, regional and local level.

Conclusions:

- The SISO simplifies the relationship between public and private providers;
- It provides a national list of participating doctors, permanently available on the DGS website and at Healthcare Units;
- It offers suitable means for the overall management of projects, at the different levels of intervention.

Promotion of Oral Health: “Brushing is important! Brushing is cool!”

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ABSTRACT

Description of the study

Objective: to publicise the film “Brushing is important! Brushing is cool!”, made within the scope of the National Programme for the Promotion of Oral Health, the main objective of which is to encourage and support the implementation of the most important activity for the promotion and maintenance of oral health at home, in the kindergarten and Primary school.

Methodology: based on the best practices for the promotion of oral health in progress, implemented with the support of healthcare centres’ professionals and in collaboration with other professionals, including education professionals, it was decided to use the film as a means of disseminating the adopted model, for an effective promotion of oral

health. A school, where tooth brushing has been a daily practice for some years now, was selected and the procedures were documented through the film presented.

Results: this film is a tool to support health promotion and education actions for the educational community and the general population. Its use is recommended in order to stimulate tooth brushing at home and at educational and teaching facilities.

Conclusions: tooth brushing, when properly executed, at least twice a day, with a fluoride toothpaste, since the eruption of the first tooth, contributes greatly to the establishment of hygiene habits, which will be perpetuated throughout life, being essential for the promotion and maintenance of health. Parental involvement and the reinforcement of practices at school are essential for this task.

Dentist cheque: a new strategy for the promotion of oral health

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ABSTRACT

Objectives: the dentist cheque represents the public image of development of the new intervention strategy in oral health, that aims to:

- Extend medical and dental assistance to population groups considered particularly vulnerable, such as pregnant women and the elderly who are beneficiaries of the solidarity supplement and NHS users;
- Generalise access to dental care for children and young people under the age of 16.

Methodology: to achieve the objectives, a public-private partnership was established with dentists and stomatologists, using the installed capacity in the Mainland to provide oral health care to NHS users, paid through dentist cheques. The study was conducted in the following phases:

- Creation of an information system for process management (SISO);
- In March 2008, the registration of dental professionals was carried out and a national list was created by place of service provision;
- In June, public services started issuing dentist cheques. The family doctor decides on the referral of pregnant women, elderly and children under 7 years of age. In April 2009, the local oral health manager will start the referral process of all children and young people who attend public schools;
- The appointments are scheduled by the beneficiary, with free choice of provider;
- The dental professional will make the diagnosis, treatment plan and treatments, and will issue additional cheques according to the plan;
- ARS will be asked every month for the payment, which will be made through bank transfer, after validation of the cheques;
- Monitoring and evaluation – The information is obtained in real time on SISO and will allow monitoring and evaluating the whole process, regulated by Decree No. 301/2009 of 24 March.

Results: the figures for the number of participating doctors per Health Region, of pregnant and elderly beneficiaries, of cheques issued and used, of usage rates and cheques paid by the 5 ARSs will be presented.

Conclusions:

- The process proved to be simple for those involved, without technical problems, easy to monitor and evaluate;
- There has been good receptivity by the beneficiaries;
- Resolution of the issue of free choice of provider and generalisation of the benefit.

Topic

POLICIES

Public health services and the health system

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ABSTRACT

Public Health, as a commitment of society to improve the health and well-being of populations (Rychetnik *et al.*, 2004), faces new challenges arising from an ageing population, from technological innovation in the health sector and from an increasing demand for healthcare.

Given the importance of health care as health determinants, the sustainability of health systems is assumed to be a fundamental requirement for the maintenance of a favourable evolution of the health status of countries in general. Among the proposed strategies, we highlight the clinical practice based on the CLINECS model (Portzolt and Kaplan, 2006) and the integration of community resources in the planning and management of chronic diseases - "Three-dimensional model" (Wagner *et al.*, 2001).

Public Health has been characterised by the absence of a useful conceptual model (Turnock, 2004). The national context of restructuring of public health services makes it important to discuss a conceptual model for the national Public Health. The model to be adopted is expected to safeguard the essential balance between comprehensiveness/thoroughness and comprehensibility, so that it can be easily adopted by the various players in Public Health - including the general public.

The Author approaches the "structure"/"process"/"outcomes" model proposed by Donabedian within the scope of healthcare quality. This model appears as a relevant tool for the understanding of the Public

Health mission in its various dimensions (Turnock, 2004), and in particular with regard to the functioning of public health services.

The role of public health services is discussed under the light of a systemic conceptual model of Public Health and its position within the national health system.

Public health specialists should undertake the role of "health system physicians", ensuring a "systemic surveillance" that promotes the equity, effectiveness and efficiency of the sector.

Gender in Health contexts and practices. Does that count?

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ABSTRACT

Inequalities in health are the result of a complex system, where the place occupied by each individual in the social fabric conditions the impact of health determinants, at the level of exposure to risk factors, vulnerability to disease and the consequences which it entails.

Health and its environments are not immune to the influence of rationality patterns of common sense about sex and gender. Research in this area, although incipient, has been consolidating the recognition of gender as a health determinant.

Studies suggest that the nature of the dichotomy man/woman is present, in various forms, in the representations and practices of professionals, as well as in the choice of specialties and opportunities in terms of career progression.

Health institutions, as genderised organisational structures, are subject to the influence of the gender order that standardises life in society and reflect gender regimes that filter measures, actions, forms of organisation, decision-making and policies in public health.

Based on these considerations, a set of studies was developed within the scope of the Project on Health, Sex and Gender – PROSASGE (Projeto sobre Saúde, Sexo e Género) – of the Directorate-General of Health, with the aim of exploring the discourses and representations of health professionals about problems related to sex and gender, namely the perceived differences between men and women, the impact of gender on functional performance and on the trajectories of career progression. For that purpose, individual interviews were conducted to doctors and nurses, within the context of primary and hospital healthcare.

According to the results obtained, the symbolisms that sustain the way of thinking about sex and gender are present in the representations of professionals. A logic of naturalisation of gender differences prevails, justifying inequalities in health (and inequities arising thereof) between men and women, which may condition the development of appropriate public health strategies that may allow alleviating such inequalities.

To better highlight the contours of the health/disease balance and be able to introduce corrective factors, it is necessary to improve the ability to value the impact of health determinants for the population and the different social groups. Thinking under a gender perspective helps to clarify the mechanisms by which the differences and similarities between genders, with regard to social realities, economic circumstances, life expectations, behavioural and relationship patterns condition the health of men and women, access to health systems, use of care and interactions with professionals.

«Quo Vadis» Public Health?

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ABSTRACT

1. Public Health – complex and changing reality

Contexts

Agenda

Protagonists

Protagonisms

Discourses and paths doomed to precariousness

2. Appreciating the recent past

Paths followed

Health police

Primary healthcare

Promotion of health

Evidence-based

In Portugal

At the Ministry of the Interior

After DL 413/71 – 1st generation Primary Care Centres

After the NHS – 2nd generation Primary Care Centres

Permanent marks (of contexts, in agendas and in protagonisms)

3. Problematic issues in understanding the present:

In the European Union:

What factors shape the public health agenda?

What wills shape the praxis?

Which «evidences» influence the decision-making processes?

In Portugal:

What does the legislator want?

What do communities aspire to?

What do professionals yearn for?

4. Peering into the future

Signs to interpret:

Organisational concentration and globalisation

Scarcity of resources/depreciation of investments

Weakening of solidarity?

Research

Who will design the facts upon which evidence will be built?

Training

In selection, recruitment, training and supervision, where do the paths of the future go?

5. Conclusions

Searching for perpetuity

Distinguishing the essential

Learning to be an enzyme

1. Understood as organized community efforts to promote health and prevent disease, public health has its praxis shaped by codes and standards adapted to increasingly diversified and changing contexts (cultural, social and economic). The agendas, the protagonists and the protagonisms have always been under a more or less accelerated change process. Discourses and paths are doomed to precariousness, as all time is a time of change!

2. Recognising the past and enjoying what was present in us; understanding Portugal within the European Union context; seeking brands that endure in populations and in us are future-bearing exercises. But, inevitably, the reading each one of us, public health professionals, has of the realities we know is complex and has gaps.

I suggest some questions which intend to help us understand evolutions and involutions:

In the European Union: What factors have shaped the agendas? What wills have shaped the praxis? What evidence guides the decision-making processes?

In Portugal: What do communities aspire to? Who recognises them? What do professionals yearn for? What do decision-makers want?

1. The challenge is to peer into the future: no illusory triumphalism's nor waste of time licking wounds. We should look for the signs and trends, especially those announced through research and training.

2. Finally, based on a professional career lived for over thirty years of public health, perhaps too bumpy, I dare to offer my previews, searching for the answer to the main question.

Health and Local Power: a necessary partnership

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ABSTRACT

Description of the study: We intend to present a reflection on the role of local authorities as strategic partners in promoting health in an urban environment and the importance of their contribution to the success of health policies. The example of best practices of the municipality of Viana do Castelo, which is part of the WHO Healthy Cities Movement, is presented here.

In the last twenty years, we have witnessed the emergence of new strategies aiming to promote a public policy in favour of health, such as the Healthy Cities movement, based on the Health for All strategy, the Ottawa Charter and the Local Agenda 21, that arise as health promotion programmes, based on the principle of community participation and intersectorial action. Although health is not the direct responsibility of local authorities, for reasons of proximity to people and problems, these will be strategic partners in promoting health and sustainable development, and are responsible for promoting equal access to health and the active participation of the community, core principles for the success of Health Policies.

For their implementation, new management processes are essential to strengthen communication and cooperation among the various local institutions, in order to promote a more active intervention, capable of engaging all community groups, where the active support of healthcare providers is essential and necessary in this whole process. Bearing in mind the evolution of the concept of health, where more flexible perspectives are positioned, considering disease or health as a result of several factors that determine the health of the population, health must be defined as a central matter of interest not only for the different professionals but also for decision-makers who hold power and are responsible for intervention.

It is within this context that the Municipality of Viana do Castelo, in coordination with the local health services and following the current no-

tion that public health should be seen primarily in terms of promotion and prevention, has focused its interventions on health determinant factors, namely in the fields of urban planning (cycle paths, pedestrian areas, green areas), environment (development of the Environmental Charter), ageing (implementation of projects in the areas of leisure, culture and citizenship), physical activity (promoting free access activities), and nutrition, among others. On the other hand, it has bet on health communication, through education and information actions about disease prevention and health promotion, intended for the community. An effort has been made to involve as much as possible the local health units, but despite the availability and willingness demonstrated by the professionals involved, the institutions are not yet sufficiently open to multidisciplinary and intersectoral work, conditioning, to some extent, the success of local health policies.

National Health Policies and Gender

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ABSTRACT

Gender interferes directly with the vulnerability to disease, as well as with the health experiences of women, men, boys and girls, being an intrinsic part of the organisation of health systems and, more broadly,

of institutions in general.

Within the scope of the Project on Health, Sex and Gender - PROSAS-GE - the Directorate-General of Health, through an autonomous study, but complementary to two others, established as an objective to question to what extent and under what ideological, epistemological and conceptual orientations the official documents of the national health sector consider gender when identifying the main health problems and proposing courses of action. The two documents which constitute the National Health Plan – 2004-2010 were analysed, through a discursive perspective, according to four dimensions of analysis, inspired by the constructionist perspective on health and disease.

The theoretical and conceptual framework of this analysis was the definition of health determinants, discussing the limitations of the traditional epidemiological thought, trying to value the literature that calls for the ecological perspective of the health and disease phenomena.

Some of the observations resulting from this analysis show that, in the definition of strategies for action, there are only occasional examples which allude to the need to consider what is different in each sex and that the apparent neutrality in relation to sex and gender is seen as a depreciation of their importance in analytical terms and as far as the definition of targets is concerned.

As a whole, the findings of this study underline the need to target health systems towards the identification of responses to the challenges presented by the social organisation of gender in this specific domain.

Topic

POLICIES – TRAINING

The training potential of the creation of USPs for the Public Health resident physician

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Keywords: potential, training, USP, physician, resident, Public Health

ABSTRACT

This presentation aims to demonstrate the training potential to Public Health specialised residents at the time of creation of the Public Health Units (USPs) of Groups of Primary Care Centres (ACES), given the richness in learning, training and performance opportunities.

From data provided by the INE (Statistics Portugal), the methodology applied is a cross-sectional study on mortality (most frequent causes, age and gender) in the District of Santarém and in the Municipalities that comprise the ACES of Lezíria II, namely Almeirim, Alpiarça, Bena-

vente, Chamusca, Coruche and Salvaterra de Magos. For illustrative purposes, the data regarding the populations listed are being researched both individually and jointly. Such approach is justified in order to demonstrate differences in vision and performance of the Public Health physician due to possible demographic differences resulting from new groups and planning of the USPs.

The needs of a situation diagnosis of the new groups and of the development of local health plans adequate to this new demographic redistribution, as well as the reassessment of the regional problems and priorities, constitute excellent training opportunities, not only due to the magnitude of work to be carried out, but also given the historical context in which they are included, in the guidance towards the reality that Public Health residents will have as mission in their work.

Topic

SCHOOL HEALTH

Forum Theatre as a community intervention strategy: contributions to the development of skills of the Nursing students integrated in the project “(O)Usar e Ser Laço Branco: Um não à Violência entre Pares” (Using and Being a White Ribbon: No to Peer Violence)

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ABSTRACT

The Theatre of the Oppressed is a system comprising special techniques, exercises and games. It is based in the theories of Paulo Freire, intending to “awaken the social consciousness of individuals, confronting them with real, true stories and providing means” that allow them

to find possible solutions for different problems. The Forum Theatre is a method of the TO. This methodology allows for an active participation of the public, proposing alternatives to the situations presented. During the debate, the individual is asked to switch roles with the actors in order to experiment alternative solutions to the problems identified. In the TO, the individual can have an active voice and find dialogue partners, discovering various viewpoints on the same issue, thus acquiring tools that value him/her as an individual and stimulate his/her social consciousness in view of different problems. The implementation of the TO comes up in the training context of the students of the Nursing School of Coimbra for their training as peer educators.

Objective: to raise awareness and educate young people to prevent and fight against violence, especially in the context of intimate relationships while dating.

Methodology: participants: 18 students of the ESEnfC.

The starting point of the training course was the proposal of practical exercises based on theatrical techniques with a duration of 30 hours. Questionnaires with 8 open questions were distributed at the end of the training, of which we highlight the following results:

Results/Conclusions: From the perspective of young people, theatre is an interactive, innovative, fun and dynamic strategy, with the potential to promote the interaction of people, involvement, cooperation among peers and team spirit.

This training allowed knowing and appreciating the aesthetic sense of life, having a better understanding of themselves and of others, working the body expressiveness and externalisation of emotions. It increased self-confidence, self-esteem, improved shyness, and made the participants pro-active. They reported feeling very well, that their evolution was very positive and progressive, helped by the motivating climate of sharing and conviviality that contributed to their commitment, dedication, involvement and motivation.

The results found allow us to verify that this training process contributed significantly to promote the personal and professional development of the students, for their performance as peer educators and as future nurses, and consequently proved to be an important strategy of community intervention in when peer educators address the prevention of violence in intimate relationships.

“PODE - Projeto de Otimização das Dietas Escolares” (Project for Optimisation of School Diets): An integrated proposal for intervention in school nutrition

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ABSTRACT

Objective: to ensure a balanced and adequate food supply, in nutrition and hygiene/sanitary terms, in the schools of the district of Viana do Castelo.

Methodology: cyclic and sequential, based on the creation of internal and specific tools for the diagnosis of the situation in terms of structural and hygiene/sanitary conditions, as well as of the practical skills of the handlers in school canteens, their use, and construction, from the results obtained, of a self-assessed, adaptive and interactive training model to check, in fact, the theoretical assumptions of health education, without this responsibility being exclusive to the trainer. Subsequently, a feedback information circuit was established with schools, which will send the data regarding the daily menus to the SSPAM. The

latter will analyse them using the Microdiet® software adapted for this purpose by the project team. The analysis will be longitudinal and continuous. Monthly reporting to schools of any nutritional errors and corrective measures closes the circuit. This is intended to achieve the goal of ensuring the hygienic and nutritional quality of school meals served in the district of Viana do Castelo.

Study of the composition of the 1st cycle school meals in the district of Porto

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ABSTRACT

Objective: to study the food and nutritional composition of meals served in school canteens of the 1st cycle of public basic education, in the municipalities to the north of Porto district (Vila do Conde, Póvoa de Varzim, Santo Tirso and Trofa).

Methodology: the 32 meals and corresponding weekly menus, four per school, were collected by environmental health technicians of the public health services. The meals were analysed by the Department of Food and Nutrition at the Dr. Ricardo Jorge National Health Institute - Porto. The contribution of lunch for the daily energy intake was set at 30%, and the following references were used: Dietary Reference Intakes (USA) and Eating well at school (UK).

Results: the average energy content per meal was 447 kcal and the median was 440 kcal. The average values of macronutrients, in grams per meal, were: 9.8 g fat, 65.7 g carbohydrates and 24.0 g protein. The average energy contribution to the meal was: 22% fat, 59% carbohydrates and 21% protein. More than 75% of the meals had a fat contribution below the lower limit of the reference range. In all meals, sodium chloride was above the recommended maximum value of 1.5 g; some meals exceeded the daily maximum value. The average fiber content was 10.8 grams per meal, a value higher than the minimum adequate level. This value does not indicate whether the supply of vitamins and micronutrients, particularly those from fresh fruit and vegetables, was adequate. Only 6.3% of the menus met all the requirements set out in the Circular of the Ministry of Education (2007), food diversity was reduced.

Conclusions: the caloric value of the meals was low, mainly due to the low fat content. The salt content of any of the meal components was very high (bread, soup and main course).

Topic

SERVICES

Professional Satisfaction: Nursing in Primary Healthcare

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Keywords: professional satisfaction and dissatisfaction, motivation, demotivation, nurses, Primary Healthcare

ABSTRACT

General objective: to assess the degree of satisfaction of nurses who, during the data collection activity, worked on Primary Healthcare at a Local Health Unit.

Specific objectives: To characterise the respondents from a sociodemographic standpoint, to know the hierarchy of professional motivation factors, to investigate possible correlations between professional satisfaction and the various dimensions studied, and sociodemographic characterisation variables.

Methodology: descriptive, cross-sectional study with an analytic component. The data collection instrument was a questionnaire that was based on a Lickert-type attitude scale. The scale applied to measure

professional satisfaction was based on the discrepancy model (E-R) between expectations (E) and results (R), previously defined and applied by Graça (1999).

Results: the response rate was 55.8%. The population studied attributed more expectations to relationships and to working and health conditions (both with the same score), to fulfilment and to autonomy/power, and better results were found at the level of status/prestige, of relationships and of fulfilment. There was a greater professional satisfaction at the level of status/prestige, fulfilment and relationships, and the respondents declared they were globally “very satisfied”.

Conclusions: it was found that fulfilment is one of the dimensions that contribute the most to job satisfaction with regard to the participating subjects, and it is possible to conclude that higher levels of job satisfaction correspond to higher levels of fulfilment ($p < 0.001$).

It was also found that associated with an increased recognition by the leadership, there is a corresponding increase in satisfaction ($p < 0.001$). Globally, the respondents declared to be very satisfied in professional terms.

Topic

TOBACCO – INTERVENTION

“SOS Deixar de Fumar” (Quit Smoking) hotline (808 208 888): Comparative Assessment of Results in the Framework of the Escher Project

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Keywords: SOS Deixar de Fumar Hotline, ESCHER Project, assessment

ABSTRACT

Objectives: according to the World Health Organization, smoking is the leading preventable cause of disease and death in developed countries. In this framework, supporting smokers who want to quit smoking is a fundamental contribution to improve the health of the population in general. The usefulness and effectiveness of telephone lines to support smokers is recognised by the main guidelines for the treatment of tobacco use and addiction.

The main objective of the ESCHER project (European Smoking Cessation Helplines Evaluation Research) was to evaluate the effectiveness of nine European quitlines (Denmark, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal and UK).

This work intends to compare the results obtained by Portugal with those obtained in the other participating countries, particularly in terms of success rate, type of services offered, customer satisfaction with the service and cost-efficiency.

Methods: the project was implemented between February 2005 and April 2006. All of the users who met the inclusion criteria for the study (users in Preparation or in Action) were interviewed by technicians of the quitlines; 12 months after the first call, participants were interviewed by telephone by an independent research team.

Results: the long-term results were the following:

- rate of participants abstinent at the time of the interview (point prevalence abstinence) = 19.1% – ranged between 11.8 % (Italy) and 27.6% (Portugal);
- abstinence rate during the 12 months considered (continuous abstinence) = 9.4% – ranged between 3.9% (Italy) and 14.6% (Portugal);
- counselling was the type of service most offered by the quitlines (76.2%);
- satisfaction with the services received was of 7.5 (average on a scale from 1 to 10);
- the average cost per smoker who quits smoking was €85.00.

Conclusions: the results of the ESCHER project indicate that the quitlines have good results in terms of effectiveness, user satisfaction and cost-efficiency. The results obtained by Portugal in this European study stand out positively: The SOS Parar de Fumar hotline (808 208 888) achieved the best results in terms of abstinence at the time of the interview (point prevalence abstinence) and during the 12 months considered in the study (continuous abstinence).

Effectiveness in Smoking Prevention: Results of the ESFA Project in 6 European Countries

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Keywords: ESFA, tobacco

ABSTRACT

Objectives: the vast majority of smokers begin smoking in adolescence. The peak of smoking initiation occurs between the age of 12 and 14. More than half of the young people who try smoking will be addicted to

tobacco in adulthood. Therefore, the control of smoking and its consequences must include prevention, addressed at young people, seeking to avoid (or delay) initiation and addiction. However, it has been difficult to prove that smoking prevention is effective.

Our goal is to present the evaluation of project EFSA - European Smoking Prevention Framework Approach (De Vries *et al*, 2006), comparing the results of Portugal with those of the remaining 5 countries (Spain, UK, Netherlands, Denmark and Finland). The ESFA was implemented between 1997 and 2001 and was defined as a comprehensive and multidimensional programme, developed based on the school, but also including actions in the family and community.

Methods: in Portugal, the project was implemented in two areas: Experimental area (Municipalities of Loures and Odivelas) and control area (Municipalities of Moita, Barreiro and Seixal). The programme followed up youngsters for 3 years, between the 7th and 9th grade. During this period 4 questionnaires were administered, at the beginning of 7th grade (T1), at the beginning of 8th grade (T2), at the beginning (T3) and at the end of 9th grade (T4). 9282 young people participated (1316 from Portugal, of which 722 in the experimental area and 694 in the control area).

Results: in Portugal, of those non-smokers in T1, in T4 12.4% were regular smokers in the control group (CG) and 7.9% in the experimental group (EG; $p < 0.01$), i.e., 36% less youngsters started smoking in the EG. Besides Portugal, Finland also obtained positive results (15% less youngsters started smoking in the EG), as well as Spain (12% less youngsters started smoking in the EG). In the remaining countries, the project obtained no results (Denmark and UK) or obtained an opposite result to that expected (Netherlands).

Conclusions: the ESFA project was effective in several countries, including Portugal. The results of this project suggest that comprehensive smoking prevention programmes should be implemented in our country.

Tobacco Control in an Organisational Context

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Keywords: prevention, smoking, ACAV Project

ABSTRACT

Objectives: smoking is the leading preventable cause of disease and death in developed countries. In Portugal, it is estimated to be responsible for over 8,000 deaths annually. Tobacco smoke is the main pollutant of indoor spaces, and scientific evidence of its harmfulness is indisputable. A considerable proportion of deaths from smoking is caused by tobacco smoke present in the environment and passively inhaled by non-smokers.

Law 37/2007 of 14 August applies the provisions of the WHO Framework Convention on Tobacco Control (Decree-Law 25A/2005, of 8 September), determining, among other measures, a ban on smoking in workplaces. In 2008, the company Allianz Portugal decided to implement an integrated programme for smoking prevention and control called “Put out the Cigarette, Ignite Life” (ACAV Project - Apague o Cigarro, Acenda a Vida). This communication intends to describe this project and present data from its assessment.

Methodology: the project had the following objectives: 1) to support the implementation of Law 37/2007 of 14 August; 2) to reduce the number of cigarettes smoked by smokers; and 3) to reduce the rate of smokers. The project included the following measures: adminis-

tration of a questionnaire on attitudes and smoking behaviours to all employees (N=428); 2) Awareness-raising actions intended for all employees; 3) awareness-raising, counselling and treatment actions intended for smokers who wanted to quit smoking, including medical and psychological support, individually and in groups; and 4) administration of an evaluation questionnaire to employees who accepted help to quit smoking (intermediate evaluation questionnaire – the final evaluation questionnaire will be carried out in May).

Results: 181 employees (42%) answered the questionnaire at the beginning of the project, of which 28% were smokers. Among smokers, 53% wanted to quit and only 24% wanted to reduce consumption. Twenty-seven employees accepted support to quit smoking. The evaluation performed 6 months after the beginning of the smoking cessation programme revealed that, out of these:

- 22% (N=6) quit smoking.
- 37% (N=10) reduced the number of cigarettes smoked.
- 85% (N=23) evaluate the programme positively

Conclusions: results suggest that integrated smoking prevention and control projects, implemented in an organisational context, are effective: they reduce the number of cigarettes smoked by smokers and decrease the rate of smokers among company employees. The smoking cessation programme is evaluated positively by most participants.

Physicians and Tobacco

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Keywords: Doctors; Smokers; Former smokers; Non-Smokers; Initiation; Cessation

ABSTRACT

Justification: Health Professionals and Tobacco Control WHO Topic in 2005.

Purpose: to contribute to smoking cessation.

Objectives: to evaluate the prevalence among physicians and the reasons why they smoke.

Methodology: self-administered questionnaire. Randomised sample.

Results: 327 physicians surveyed, from the Mainland and Islands; 45.26% Male and 54.74% Female, $p < 0.001$. Smokers 11.01% (6.73% M, 4.28% F); Former smokers 40.06% (24.46% M, 15.60% F); Non-smokers 48.93% (23.55% M, 25.38% F) $p < 0.05$.

SMOKERS AND FORMER SMOKERS: Initiation at 16.23 + 3.61 years of age; Influences: "own will" 40.20% M; 49.23% F; Colleagues 37.26% M; 35.38% F; Other 22.54% M; 15.39% F.

FORMER SMOKERS: voluntary cessation 35.88% (19.08% M, 16.80% F); Influence of Relatives 10.69% (6.11% M, 4.58% F); Health reasons 19.85% (15.27% M, 4.58% F); No answer 26.71% (14.50% M, 12.21% F); Colleagues 6.87% (6.11% M, 0.76% F).

Reasons for smoking: Search for tranquillity 61.11%; Social reasons 27.78%; "No answer or Unknown" 11.11%. Differences between Men and Women are not significant $p > 0.05$.

Conclusions: in this sample, Physicians are quitting smoking. There are more male smokers than female, but once the habit is acquired, women have more difficulty in quitting. Smoking cessation is mainly dependent on the control of self-will.

Recommendations: professionals should intervene strongly since pre-adolescence.

Knowledge, behaviour and ethical responsibility of health professionals with regard to smoking

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Keywords: Knowledge, Behaviours, Ethics, Smoking, Physicians, Nurses

ABSTRACT

Objective: study developed in collaboration with Smoking Prevention and Treatment Programme developed by the Regional Health Adminis-

tration of the North. It aims to reflect on the role of the Health Professional in changing smoking behaviours, characterising the attitude and practice of this professional group, needed to change the attitudes of the society itself. The high prevalence of risk factors associated to circulatory system diseases, namely smoking, suggests a special attention should be paid to its prevention. This is the first study applied after the implementation of the new Tobacco Law.

Population and methods: Cross-sectional study based on a self-administered and anonymous questionnaire that addresses the cognitive, ethical and behavioural aspects related to tobacco consumption, administered to the Physicians and Nurses of Primary Care Centres and Family Healthcare Units in the city of Porto and of S. João Hospital, which constitute the sample.

Results: from a sample of 524 Nurses and 101 Physicians, the tobacco consumption proportion found was of 23.1% for the former and 13.0% for the latter. «Exit the building and smoke outdoors» was the behaviour most frequently reported by smokers (46.7%), but they declared being sceptical about the benefits of banning smoking in the workplace. There was knowledge about the harm caused by tobacco and Environmental Smoke, but not about ventilation systems. In ethical terms, the majority recognised the harmfulness of consuming tobacco close to users, both by the harmful effects of Environmental Smoke, and by the message conveyed. Health Professionals supported tobacco control policies, however, smokers were not so much in agreement. In Primary Healthcare there was a higher percentage of professionals who received training on smoking, and there seems to have been an impact of that training on the agreement declared with regard to some issues at the cognitive and ethical level.

Discussion and conclusions: The proportion of unfavourable responses at the cognitive, behavioural and ethical level and of those who have no intention of quitting is significant in this study. The results allow us a better understanding and provide indicators for the definition of policies to reduce the prevalence of tobacco consumption among Health Professionals, and to raise awareness on the importance of their role in reducing the problem of smoking in the area of Public Health. Pre and post-graduate training on smoking for Health Professionals should be improved.

Web-Assisted Intervention on Tobacco: the case of www.parar.net

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ABSTRACT

Introduction/Objectives: Portugal is a country with an estimated 1.6 million smokers, which ratified the WHO Framework Convention on Tobacco Control. Although tobacco consumption is decreasing, with a prevalence of smokers in the population aged over 15 years of 20.4%, critical issues still remain. The observed increase in smokers among women, as well as among men aged 35-44 years, deserves special concern. A lack of human and material resources to meet the needs of those who would like to quit smoking is a matter under consideration. Salutogenesis is considered a necessary paradigm for intervention. A web-based communication protocol to address these issues is being considered. The preparation of a tool for Web-Assisted Intervention on Tobacco, that may help professionals in their interventions and monitor the progress of those who wish to quit smoking over time, was proposed. This should also be a tool for citizen empowerment.

Results: over 3500 people accessed the portal. 3411 provided informed consent and 3170 answered the eligible initial questions. Of these, 1463 met all the eligibility requirements, deciding the date of cessation, providing information such as the Sense of Coherence, the Prochaska and DiClemente Stages of Change, the Fagerström tolerance scale score, with 24 other constructive measures deemed relevant to improve the path towards a smoke-free life. The age average was 35 years (sd 9.7 years), with a smoking rate of 21 cigarettes and two attempts to quit

smoking. In proportion, more women than men used the platform. [4]
Conclusions: www.parar.net seems to provide an answer to two objectives: to help health professionals in their work, and to help women and men to strengthen their decision to quit. The fact that using the Internet is common for youngsters and adults may be considered a positive aspect Web-based interventions. The large percentage of women using this platform and its technological processes reveal, so far, that the Internet is not an obstacle to the empowerment that this intervention intended to achieve. Time and resources are needed to better understand the real implications of a web-assisted intervention on tobacco in the Portuguese context, particularly when considering the issue of its use by people from other parts of the “global city” who speak the same language (migrants, Brazil and PALOPs-Portuguese Speaking Countries).

Prevention of children’s exposure to Environmental Tobacco Smoke (ETS) at their home

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ABSTRACT

Objectives: a) To determine the prevalence of 4th grade students exposed to Environmental Tobacco Smoke (ETS) at home; b) Evaluate the effectiveness of the “Domicílios Sem Fumo” (Smoke-free Homes) Programme, a preventive intervention intended for 4th graders and their parents/guardians with the aim of reducing children’s exposure to ETS at home.

“Domicílios Sem Fumo” is a pilot programme to prevent children’s exposure to ETS, based on “The ABCs of Secondhand Smoke” developed by the U.S. Environmental Protection Agency. It is applied in the classroom by teachers who were trained for this purpose. It includes five sessions: Addressing the harms of active and passive smoking; Creation, by the children, of small works (letters, leaflets and a badge for the school to send to parents); Role-playing exercises, in groups of two students (role of child and father/mother), where the child tries to convince the “adult” not to smoke at home; Sending a leaflet on the harms of active and passive smoking to parents; Signing of a declaration between parent and child, whereby the former commits to apply a policy for banning smoking inside the home.

Material and methods: Pre-test and post-test type of study with students from 32 schools of the 1st Cycle of Basic Education, from five School Groups in the Municipality of Braga, in the school year 2007/08. A self-report questionnaire was applied inside the classroom, before and after the intervention. c2 was used in data analysis, as one was dealing with category variables.

Results: the initial pre-test prevalence of children exposed daily or occasionally to ETS, because at least one person smokes at home, was of 42.2%; this decreased to 32.6% after the implementation of the programme ($p=0.001$). The percentage of students, children of smokers, who perceived that their father smoked daily or occasionally at home decreased from 68.0% at the pre-test to 51.6% at post-test ($p=0.001$). With regard to mothers, the reduction achieved was not statistically significant (from 67.0% to 62.4%, $p=0.126$).

Conclusions: the prevalence of participants exposed to ETS at home is high. The “Domicílios Sem Fumo” Programme was efficient, reducing the rate of parents and other people who smoke at home. It should be reassessed and adjusted in order to introduce the necessary changes so as to increase its effectiveness.

Topic

TOBACCO-LAW

Statistical and epidemiological monitoring of tobacco use in Portugal – Impact study on Law no. 37/2007 of 14 August

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ABSTRACT

Law no. 37/2007 of 14 August 2007 (the Law) implements the provisions of the World Health Organization Framework Convention on Tobacco Control, establishing standards leading to smoking prevention. This law aims to protect citizens from involuntary exposure to tobacco smoke and also to define measures to promote the reduction and cessation of tobacco consumption. Its article 24 stipulates as competence of the Directorate-General of Health (DGS), in coordination with the Department of Epidemiology of the Dr. Ricardo Jorge National Health Institute (INSA) and the Technical Advisory Group, the statistical and epidemiological monitoring of tobacco use in Portugal, as well as the impact assessment of this law’s enforcement, namely in terms of compliance, evolution of conditions at workplaces and public service.

In this sense, after one year of implementation of the Law, information was gathered on tobacco sales, as well as on medical appointments and sale of smoking cessation medications. A cross-sectional study was also carried out, aiming to assess the impact of the Smoking Prevention Law on the Portuguese population residing in Mainland Portugal.

The intention was to assess the impact of the law on citizen perception, the degree of satisfaction and perception of its compliance, the identification of changes in attitudes and behaviours, as well as the prevalence of tobacco consumption.

The sampling method was randomised, stratified by region. Data collection was performed using a questionnaire developed from the consulted bibliography and some questions used in the National Health Interview Surveys. The questionnaire was administered at home, by interviewers previously trained for this task, and covered only residents aged 15 years or more.

This study demonstrated that the Portuguese population appreciates the Smoking Prevention Law with respect to its compliance and is satisfied with its implementation. In summary:

- 5% of smokers have quit smoking;
- 22% of smokers have decreased their consumption, on average, by 9 cigarettes per day;
- 94% of citizens believe that the Law protects health;
- 55% of citizens believe that the Law is not penalising for smokers;
- 78% of citizens believe that the Law is being fully or moderately respected.

The WHO Framework Convention on Tobacco Control: Implications and challenges for national legislation.

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ABSTRACT

Tobacco consumption was responsible for 100 million deaths in the twentieth century. Currently, 5.4 million people die every year, worldwide, due to tobacco-related diseases. If no preventive measures are instituted, by 2030 this figure will have reached about 8 million deaths annually. Besides the impact on mortality, tobacco consumption is the first isolated cause of disease burden in developed countries. In Portu-

gal, tobacco consumption is responsible for about 12% of total annual deaths and about 11% of the disease burden, measured in Disability-Adjusted Life Years (DALYs).

The globalisation of production, marketing and illicit trade of tobacco products requires the adoption of approaches based on strong inter-governmental cooperation. In this regard, the WHO launched, in 1999, the basis for the negotiation of an international treaty to control this problem.

The unanimous signature of the Framework Convention on Tobacco Control, after four years of negotiations, during the 56th World Health Assembly, on 21 May 2003, and its entry into force on 27 February 2005, were a historical milestone for Public Health worldwide.

This Convention, the first promoted by the WHO and already ratified by 163 Member States, reflects the widespread recognition of this serious public health problem and the success of this initiative in mobilising governments and civil society for its control.

Portugal is part of this Convention, through the adoption by the Government of Decree 25-A of 8 November 2005.

The recent approval of Law 37/2007 of 14 August responds to some of the commitments arising from the adoption of this Convention.

However, this Law presents some shortcomings and even implementation difficulties which must be identified, so that the conditions can be created to allow the future adoption of measures, yet to be taken, in order to control this problem in our country.

This communication will present the main lines of intervention proposed by the Framework Convention and analyse the current law on smoking prevention, in order to identify gaps and inconsistencies, which will be important to resolve in the future, for the sake of obtaining more health gains for the Portuguese population.

Impact Assessment of Law no. 37/2007 on the users of the Family Healthcare Unit of Gualtar - Braga

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ABSTRACT

Introduction: Law no. 37/2007 introduced smoking restrictions in workplaces in order to fight against active smoking, which is the leading cause of preventable death and diseases in developed countries, and passive smoking, for which there is no safe threshold of exposure.

Objectives: to assess the impact of the entry into force of Law no. 37/2007, on 1 January 2008, on tobacco consumption, leisure habits and well-being at the workplace of USF-Gualtar users, who smoked until 31 December 2007, as well as its contribution to smoking cessation.

Methodology: observational, analytical and cross-sectional study of the impact of the above-mentioned Law, by applying a questionnaire to a convenience sample.

Results: among the 218 smokers analysed, smoking was reduced from 11-20 to 1-10 cigarettes/day after the entry into force of Law no. 37/2007, without significant changes in their leisure habits (attendance of public places such as cafes, shopping centres, bars/pubs, nightclubs and restaurants, and corresponding permanence time, and tobacco consumption inside the home) and well-being at the workplace. Only a minority resorted to a healthcare professional or medication to adapt themselves to smoking restrictions at the workplace. This Law facilitated smoking cessation and maintenance of abstinence in 73% of the 22 former smokers analysed, mainly by increasing the price of cigarettes and smoking restrictions. Out of these, 27% resorted to medical help to quit smoking.

Discussion/Conclusion: This study confirms the effectiveness of smoking restriction policies at workplaces in the reduction of tobacco consumption, as has happened in other countries. These results should be corroborated by similar studies with randomised samples, as this is a convenience sample.

Public Health Policies related to Health Determinants: the example of tobacco in alcohol control perspectives in Europe and in Portugal

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ABSTRACT

The bases for the development of public health policies in the area of alcohol-related problems (ARP), at both European and national level, need to be clarified and discussed taking into account the complex reality of the measures concerned and of the social actors that interfere with their mission, which can affect their action and results, jeopardising the public welfare and health of populations, due to the interference of marketing strategies and sectorial interests, namely of the alcohol industry.

The purpose of this presentation is to reflect on the forces involved in the design and implementation of alcohol-related policies, taking advantage of the lessons learnt in areas such as tobacco control, with the aim of contributing to a stronger and proper positioning of the actors and agencies working in Public Health in Portugal. This approach identifies the main damages at Public Health level associated with the consumption of alcohol, gathers recommendations and existing scientific evidence on alcohol policies and, finally, makes an analysis of the role played by European and Portuguese authorities in the pursuit of such policies.

Developed topics:

1. Alcohol consumption and damages to Public Health

In recent years, alcohol consumption became a major Public Health concern around the world. In addition to prevention, treatment and maintenance measures related to potential pathologies arising from the use of alcohol by specific population groups, Public Health is concerned with consumption extended to the whole population and the effects caused by this consumption in terms of externalities (effects for others and for society), because alcohol consumption (like tobacco and other drugs) is not just an isolated individual behaviour, but a social activity instead, where the behaviour of one who consumes influences the behaviour of others towards consumption (Room *et al.*, 2000) as well as the public good and the whole social development in general (Babor *et al.*, 2003).

In Portugal, World Health Organization data (WHO, 2006) with regard to the year 2003 indicate a value of 9.38 litres of pure alcohol per person/year, still above the average values of both the European Region, with a value of 8.78 litres of pure alcohol per person/year, and of the European Union, be it of the EU15, with the already mentioned value of 9.35 litres of pure alcohol per person/year, or of the EU25, with a value of 9.26 litres of pure alcohol per person/year.

The first study on the costs and burden of alcohol-related disease in Portugal (Gouveia *et al.*, 2008) was carried out in 2008. The first overall conclusion of the analysis is that 3.8% of deaths in Portugal are attributable to alcohol, i.e., 4,054 deaths (women: 21.6% men: 78.4%) for a total of 107,839. On the other hand, the global burden of the disease estimated by the sum of DALYs by death and disability attributable to alcohol reaches a total of 41,257 years (29,245 for men and 12,012 for women). The estimated costs for the NHS arising from associated diseases attributable to alcohol consumption are of around €189,240,164.00 euros (€92,979,144.00 in outpatient treatment and €96,261,020.00 in inpatient treatment).

When compared with other estimates made at European level (Anderson & Baumberg, 2006), these values appear to be lower than expected, if we consider the levels and patterns of Portuguese consumption in the European context. This may be partly explained by the under-reporting of data from some of these diseases and health conditions related to alcohol consumption (i.e., car accidents), the exclusion of other alcohol associated problems and diseases (approximately 60 different pathologies and health conditions in total) and the absence of an approach including consequential externalities of alcohol consumption in the population (i.e., costs of prevention, enforcement and damages caused by associated crime and road accidents; unemployment and

social disintegration; absenteeism and damages associated to work activity).

2. Alcohol policies and Public Health action

The basis for public health policy of governments like the UK is that "People need to be supported more actively to make better decisions about their own health and welfare because there are widespread, systematic failures that influence the decisions individuals currently make. These failures include a lack of full information, the difficulty individuals have in considering fully the wider social costs of particular behaviours, engrained social attitudes not conducive to individuals pursuing healthy lifestyles, and addictions. These failures can be tackled not only by individuals but by wide ranging action by health and care services, government – national and local, media, businesses, society at large, families and the voluntary and community sector. The main levers for Government Action include taxes, subsidies, service provision, regulation and information" (Wanless in Anderson & Baumberg, 2006).

Following the same line of thought, one can define the central purpose of alcohol policies as being "to serve the interests of public health and social well-being through their impact on health and social determinants, such as drinking patterns, the drinking environment, and the health services available to treat problem drinkers" (Babor *et al.*, 2003). It is however necessary to clarify who should legitimately participate in this process. A suitable framework describes public policies as "authoritative decisions that are made by governments through laws, rules and regulations (Longest, 1998). The word authoritative indicates that the decisions come from the legitimate purview of legislators and other public interest group officials, not from private industry or related advocacy groups".

3. Alcohol policies in Europe and in Portugal

Currently, in the area of alcohol policies, representatives of the alcohol industry (AI) tend to hold different views from representatives of governmental (GOs) and non-governmental organisations (NGOs), who are more similar in their views. Basically, alcohol industry representatives view regulatory measures (such as tax and price measures, and restrictions on the availability and advertising of alcoholic beverages), as of low impact and political importance, and are more favourable to educational measures, despite being similar and positive in their views of the impact and importance of implementing measures and interventions for hazardous and harmful alcohol consumption (Anderson and Baumberg, 2006).

It was within this context that the European Commission adopted in 2006 "An EU strategy to support Member States in reducing alcohol related harm". The strategy, coordinated by the Committee on National Alcohol Policy and Action (in which all EU Member States are represented), addresses the adverse effects on health associated with the risk and hazardous consumption of alcohol, as well as those related to social and economic consequences, and establishes the creation of the European Alcohol and Health Forum. Economic operators and NGOs participate in this Forum, as well as the EU Member States, European institutions, the WHO and the International Wine Organisation as observers.

As could be expected, the strategy was received with much resistance by social players of the alcoholic beverages industry, who generally oppose restrictive policies related to alcohol consumption. Added to that is the fact that in the European Union alcohol is mostly seen as a commodity and, hence, as an economic matter, therefore the future impact of international trade agreements on national alcohol policies is still uncertain. Thus, the practical final result of adopting this strategy, trying to be as consensual as possible, sometimes ignores the scientific evidence presented in recent years and the need for a proper and legitimate action of public health policies adopted by governments, not considering as priority tax and price measures and stricter restrictions on the availability and advertising of alcoholic beverages, measures with proven effectiveness, low implementation costs for governments and which undermine the effectiveness of other measures advocated such as those related to education and prevention. Already in 2009 the European Commission adapted the funding and programme guidelines for community action in the field of health (2008-2013) to the "EU

Strategy to support Member States in reducing alcohol related harm", with regard to the priority of alcohol within the scope of addiction prevention. The three measures that may be supported are in areas clearly involved in controversies regarding their isolated effectiveness and implying the adoption of a series of additional measures required according to international literature, but which are not objectively provided for in these European policies and consequently in the respective support measures, namely, prevention in the workplace, control of the sale of alcoholic beverages to minors through education and training, and self-regulation of advertising.

In Portugal, the IDT (National Institute of Drug Addiction) developed in 2008 some internal initiatives and consultations to social players in order to create a strategic plan for ARP. In early 2009, a National Programme for the Reduction of Alcohol-Related Problems for the period 2009-2012 (PNRPLA 2009-2012) (IDT, 2009) was effectively introduced and brought to public debate (from 9 February to 10 March), to be afterwards submitted to the Ministry of Health. An initial assessment of the measures proposed in this document shows that not all international recommendations were considered, namely when those directly affected the interests of the industry, such as policies regarding pricing, taxation, advertising, promotion, sponsorship and availability of sale, among others. There was also no initiative to create legislative framework measures for ARP and the alcohol sector. However, other consensual measures in the traditional areas of health intervention, such as service organisation and information systems, prevention, treatment and reintegration, as well as adjustments to the measures related to road accidents are developed. This situation may be partly understood by the fact that this plan based the definition of its priority areas in the European strategy (An EU strategy to support Member States in reducing alcohol related harm), thus suffering from the same deviations found in it, which shows the magnitude of the influence that social players with interests in this area can have.

Tobacco Law: emerging issues after one year in force

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ABSTRACT

One year after the Tobacco Law, it is important to think about the main legal issues raised by its enforcement, in order to present concrete proposals to be considered during its review.

The methodology used was a descriptive qualitative analysis which consisted of a literature review, including cited legislative sources, and also reflects the conclusions of direct observation within the scope of the daily monitoring of the implementation of this Law and of the participation in the work of the Advisory Group.

We started by understanding how tobacco appeared in the world, the factors that led to the increase in its consumption, we examined the history of international relations that led to the adoption of recommendations with its highest expression in the Framework Convention, and we observed data on existing smoke-free legislation, to conclude that there is still much to do. We then focused the analysis at the level of national law and described the background of the current law and the elements that influenced it the most. Afterwards we analysed the general rule and the exceptions, considering the corresponding French, English and Spanish legislation. We presented reasoned proposals for a substantive amendment of the currently foreseen rules, that can be summarised as follows: it is enough to identify workplaces and means of transport as places where smoking is prohibited; the identification of places only makes sense within the scope of exceptions; there is a growing number of places that choose full prohibition; tolerance to smoking indoors has decreased; exceptions should be reserved for places where tobacco use is more tolerated and has less risk to public health; >>the requirements foreseen in the exceptions are debatable and raise doubts at the scientific level; the rules must be clear and objective, transparent and easy to apply; the air exchange rate, the depression of the sites and the admissible types of doors/entrances should be provided for; smoking

areas may not be located on passageways; technical certification of the equipment by a qualified professional should be required; food and beverage establishments with areas smaller than 100 m² should be excluded from the scope of the exceptions.

Finally, we discussed the technical grounds for admissibility of exceptions and the legislative review process. The legality of the constitutional basis and the legitimacy for restricting citizens' freedom are as-

certained, highlighting the elements of flexibility provided for by the legislator based on the right and duty to protect health. We advocate its early surgical revision, focusing on standards that need clarification for the benefit of entities with responsibilities in the scope of its implementation and enforcement, as well as of economic agents and citizens in general.

Topic

VACCINATION

Introduction of the Human Papillomavirus Vaccine (HPV) in the National Vaccination Programme

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ABSTRACT

Introduction and objective: HPV infection is more common among youngsters and in the first years after onset of sexual activity, sexual transmission being the most frequent type of infection in these ages. Cervical cancer (CC) is the 2nd most common cancer in women worldwide, and almost 100% of the cases are related to HPV infection. In Portugal, CC screening, although recommended and regulated, has been essentially opportunistic. The estimated CC incidence for Portugal in 2007, for women over 15 years of age, was 24.52/100,000, with a mortality rate of 4.45/100,000, surpassing other countries in Europe. HPV vaccines protect against not yet acquired genotypes, and therefore should preferably be administered before the onset of sexual activity. There are two vaccines in the Portuguese market: the bivalent vaccine, including HPV genotypes 16 to 18, and the quadrivalent vaccine, including HPV genotypes 16, 18, 6 and 11. Genotypes 16 and 18 cause 70 to 75% of CC cases due to HPV. Vaccination is completed with three doses. In November 2007, the Prime Minister decided to introduce the HPV vaccine in the National Vaccination Programme. After proposal by the Technical Committee on Vaccination in December 2007, vaccination began on 27 October 2008, with the cohort born in 1995, and intended for girls who turn 13 years old during that calendar year. A Vaccination Campaign started in January 2009, which would last until December 2011, for young women turning 17 years old during that calendar year. The results of the evaluation of HPV vaccination in Portugal as at 31 December 2008 are presented.

Methodology: vaccination coverage was assessed as at 31 December 2008 for the 1st dose of the HPV vaccine in the cohort of young women born in 1995 by the method of counting the individual records in the SINUS-Vaccination Module.

Results: there was a national vaccination coverage of 75%, ranging between 60 and 97%, depending on the Health Region.

Conclusions: the high vaccination coverage achieved in about two months with the HPV vaccine reveals a high degree of information, acceptance and motivation by the professionals and the public. It is essential to ensure that these conditions are kept, since the impact of this measure will only be observed in the long term.

"For Your Health, Get Vaccinated!": intervention project to promote vaccination in an Urban-Rural Community of the Centre Region.

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ABSTRACT

The purpose of the National Vaccination Programme is to protect the individual and the community by controlling, eliminating and contributing to the eradication of infectious diseases, being necessary to ensure high levels of vaccination coverage for population in general. It is up to

health professionals to promote the programme, motivate families and take every opportunity to vaccinate susceptible people (DGS, 2003).

Objectives:

- To update the records in SINUS of the users with an updated vaccination status;
- To increase vaccination coverage for the users of the Health Unit.

Methodology: descriptive study resulting from an intervention project targeting the registered Users with an outdated or unknown vaccination record in the SINUS programme. The computer programme and the consultation of the Vaccination Record were used for confirmation of the vaccination status. The users were summoned during the consultations, home visits, telephone contacts or by postcard. To disseminate the project, several posters were posted in the community, and the collaboration of community leaders and users was requested, in order to motivate other family members and the community to join the project. Its implementation took place in 3 phases. The vaccination took place at the Health Unit and at home.

Results/Conclusions: Of the 2269 users in the initial list, 99 were identified as deceased (4.6%). 23.1% of users were summoned; 23.3% of the summoned users were vaccinated. The users were mostly (50.2%) male and in the 25-44 age group; the majority of female users (49.8%) were in the 65 and older age group. The update rate of the vaccination records in the SINUS programme was 28.5%, surpassing the initial goal of 20%. The vaccination rate of users whose vaccination status would be updated was 19.9%, exceeding the 15% proposed. The most administered vaccines were for tetanus and meningitis C. In the end of the project, the various vaccination coverage rates, by age bracket, are above the values expected for the region, with the exception of users aged 65. Worthy of notice is therefore the investment and intervention of health professionals, and particularly the Public/Community Health Nurses, in the implementation and development of health surveillance projects that can promote adherence of users to vaccination in order to increase the vaccination coverage/vaccination records update rates and consequently to obtain health gains for the benefit of populations.

Assessment of the National Vaccination Programme (PNV) in 2008

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ABSTRACT

Introduction and objectives: the National Vaccination Programme (PNV), created in 1965, has been so far coordinated uninterruptedly by the Directorate-General of Health. Currently, the vaccination calendar includes vaccines against 12 diseases: tuberculosis (BCG), hepatitis B (HBV), diphtheria, tetanus (Td), pertussis (DTaP), infections caused by Haemophilus influenzae type b (Hib), polio (IPV), measles, mumps, rubella (MMR), Meningococcal disease C (MenC), and human papilloma virus (HPV). When necessary, catch-up campaigns are carried out for certain vaccines. The evaluation of the National Vaccination Programme is presented through the rates of vaccination coverage, the percentage of immunised population (serological data) and the impact of vaccination on targeted diseases.

Methodology: vaccination coverage for vaccines of the PNV were evaluated as at 31 December 2008, by the method of counting the individual records in the SINUS-Vaccination Module. The vaccines evaluated were: BCG and VHB1 (2008 cohort); DTaP3, Hib3, IPV3, HBV3 and MenC2 (2007 cohort); DTaP4, Hib4, MMR1 and MenC3 (2006 cohort); DTaP, IPV4, MMR2 (2001 cohort); The estimated proportion of vaccinated population was assessed by the National Serological Survey 2001-2002. The impact on diseases was measured using the system of Compulsorily Notifiable Diseases (CND) and the Specific Surveillance Programmes for meningococcal disease, measles and rubella.

Results: in 2008, the vaccines administered during the first two years of life had vaccination coverage's between 94% (DTaP4, Hib4) and 97% (DTaP3, Hib3, IPV3, HBV3, MenC2, MMR1). MMR2 had a coverage of 95%. The last national serological survey confirmed the high level of population immunity to several of these diseases (e.g., tetanus, polio, measles and rubella). In 2008, it was confirmed that the target diseases of the PNV are eliminated (polio and diphtheria with 0 cases for over 10 years), under elimination (measles, with only one confirmed case since 2006) or controlled (rubella, Haemophilus influenzae type b, meningococcal C disease and tetanus, with <20 cases/year, pertussis with <100 cases/year and mumps with about 200 cases/year).

Conclusions: the main strategy for prevention of communicable diseases in our country necessarily involves routine vaccination (PNV), which should remain a top priority at local, regional and national level. The decreasing magnitude of diseases preventable by the PNV can paradoxically undermine its acceptance, therefore it is necessary to intensify the dissemination of its benefits to the public and professionals involved.

Haemophilus influenzae infection in Portuguese children: what is the scenario after the introduction of the Hib vaccine in the National Vaccination Programme?

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Keywords: vaccine, Haemophilus influenzae, child, National Vaccination Programme

ABSTRACT

Objective: to clarify the epidemiology of Haemophilus influenzae (Hi) in relation to the production of polysaccharide capsules and to the resistance to the most commonly used antibiotics. For that purpose, 1272 isolated strains were evaluated in children aged 5 or less, in various Portuguese hospitals, in the period after the introduction of the Hib vaccine in the National Vaccination Programme (PNV) (2001-2008).

Methodology: the sample, collected at INSA's Antibiotic Resistance Unit, included isolates involved in: respiratory infections (55.1%), conjunctivitis (27.2%), otitis (11.0%) and invasive infections (2.6%). The production of β -lactamase was detected with nitrocefin. The minimum inhibitory concentration (MIC, mg/L) was determined by microdilution plating and analysed according to the "breakpoints" established by the CLSI. Capsule detection was carried out, and the capsular serotype (a to f) was characterised by PCR, with specific "primers" for each case.

Results: ampicillin resistance by production of β -lactamase was detected in 12.7% of the strains. 5.6% of the strains were characterised as β -lactamase-negative Hi strains with ampicillin MIC \geq 2 mg/L, which may indicate the presence of the non-enzymatic resistance mechanism (BLNAR strains). There was a high resistance to trimethoprim-sulfamethoxazole: 26.3%. The PCR of 1209 strains allowed to detect 17 serotypable strains (1.4%): 1 Hia, 8 Hib, 4 Hie and 4 Hif. The non-capsulated strains (NC) constituted 98.6% of the sample.

Conclusions: despite the enormous success of the conjugate vaccine in reducing invasive Hi infection, there are still cases of meningitis or septicaemia due to isolates with rarely found serotypes (in this study 1 Hia and 3 Hif). A continued surveillance of antibiotic resistance is of utmost importance, due to the increasing detection of BLNAR strains, which may be responsible for treatment failures. These results are worrying in terms of Public Health, and require constant monitoring, especially with regard to the emergence of non-b (12%) and NC (72.7%)

serotypes in invasive infections. This type of studies should be pursued in order to assess the epidemiology of the Hi infection in children, after the introduction of the vaccine in the PNV.

Assessment of the vaccination coverage rate of users of non-Portuguese nationality of the Primary Care Centre of Braga, in cohorts born from 2000 to 2005

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ABSTRACT

Introduction: the National Vaccination Programme (PNV), aimed at reducing morbidity and mortality from infectious diseases, is universal, free of charge and accessible to citizens present in Portugal, including legal and illegal immigrants. Only vaccination coverage rates higher than 95% provide group immunity, therefore the existence of population groups with lower rates facilitates the reappearance of infection outbreaks. According to socio-anthropological studies, most immigrants live in a precarious context, thereby being a group vulnerable to health problems. Paradoxically, there are few studies assessing their impact on Public Health. Thus, it becomes necessary to assess whether they constitute a group susceptible to the infectious diseases targeted by the PNV.

Objectives: to analyse the rate of vaccination coverage for users of Portuguese and non-Portuguese nationality of the Primary Care Centre of Braga (CSB) in cohorts born from 2000 to 2005, according to the PNV 2000.

Methodology: observational, analytic and cross-sectional study of the vaccination coverage rate, per vaccine and birth cohort, from 2000 to 2005, of Portuguese and non-Portuguese nationals, registered at the CSB, using the SINUS computer programme.

Results: the vaccination coverage rates of the population of non-Portuguese nationality are always lower than those of the national population, never reaching 95%. However, they present a positive trend, and the 2005 birth cohort presents the best rates. The rates of vaccines with the highest number of inoculations (DTP and Hib) are lower in both populations. Users coming from Africa, America and Eastern Europe have the best vaccination coverage rates, while those from Asia and Western Europe have the worst.

Discussion/Conclusion: Although the reduced number of users of non-Portuguese nationality limit the representativeness of the results and the validity of comparisons between populations, it was found that the population of non-Portuguese nationality has vaccination coverage rates that do not provide group immunity. Thus, it will be important to conduct further studies with representative populations and covering illegal users, since these have not been studied. Should any asymmetries be detected in the vaccination coverage rate, it will be necessary to implement specific measures to solve this potential Public Health problem.

Public Health in Lower Alentejo: past, present and future

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ABSTRACT

The Public Health Unit of Beja intervenes within its area of expertise in accordance with the provisions of the legislation in force, and currently has a multidisciplinary, young and dynamic working group, at the forefront of the intervention: a Public Health Physician, a Sanitary Engineer, an Environmental Engineer, an Environmental Health Technician, a Clinical Psychologist and a Social Worker. Occasionally Nurses, Oral Hygienists and a Nutritionist also cooperate. The organisation of this service suffered changes over time, currently integrating the fields of Environmental Health, Sanitary Engineering, Promotion and Protection of Health and the Health Authority.

Coordinated by a Public Health Physician, the Public Health Unit has been growing and expanding its mode of intervention in a creative and innovative way. In addition to the inherent official work, the culture of partnership has been constant, something which is revealed in the various working groups in which we are included. The “art” that Winslow talked about to define his concept of Public Health, is often reviewed in this work experience. Despite the geographical, technical and material constraints, team spirit has shown how it is possible to achieve the

intended objectives, as well as to involve the most sceptical people in this achievement.

Given the recent restructuring of the public health services in Portugal, it is urgent to promote and stimulate the discussion around the planning, organisation and development of these services, therefore we propose, in this communication, to share our experience and best practices in Lower Alentejo.

Topic

WASTE

Hospital Waste Management - Primary Care Centre of Pombal and corresponding Health Extensions

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ABSTRACT

The hazard of hospital waste, for reasons of public health and risk of nosocomial infection, is an increasingly felt certainty, not only by health professionals, but also by the population in general. This research aimed to evaluate the knowledge, best practices and opinion of the workers of the Primary Care Centre of Pombal (headquarters and extensions) with regard to the problem of hospital waste, and to assess how the management thereof is done at those Health Units. Both the headquarters of the Primary Care Centre of Pombal and the corresponding Health Extensions were considered study sites. For that purpose, a questionnaire was handed to all health professionals who work directly with Hospital Waste (Physicians, Nurses, Diagnostic and Therapeutic Technicians and Cleaning Workers), with the exception of those who deal only with Group I hospital waste (equivalent to urban waste). Visits were also held to all Health Units studied, where a check list, based on current legislation, was completed. Statistical data processing was carried out using the statistical software SPSS version 13 for Windows. Of the eighteen Health Units, only one, the headquarters, had a special storage area for this type of waste according to the precepts of Order no. 242/96, of 13 August (lacking only emergency signage). Of the remainder, 33% had a specific area which will require an intervention, and 61% still use inadequate spaces (bathrooms, hallways, etc.). Regarding the questions asked to health professionals, it was found that the vast majority of the sample, 71.2%, answered correctly to between one and five of the eleven questions asked, i.e., less than half. However, 86% considered it important to have training on this subject. The majority of the sample, 58%, believe that they apply the correct best practice procedures when handling this type of waste. 53% of respondents have a positive opinion, versus 47% that show a negative opinion, given the means they have at their disposal.

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| POSTERS



TOPIC

ACCIDENTS

Occupational Accidents in the Hospital Environment

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ABSTRACT

In the hospital environment, occupational accidents are associated to several risk factors, usually linked to the workers' performance and working conditions. This study aimed to characterise the occurrence of occupational accidents at a general teaching hospital in the Centre Region of the Country. To achieve this goal, a retrospective cohort, descriptive-correlational study (level II) was conducted. The sample was thus composed of all Healthcare Professionals who, in the period from 2005 to 2007 inclusive, suffered an occupational accident. The type of sampling was non-probabilistic, and the technique was convenience. The data were collected from occupational accident record files (database) of the years 2005 to 2007. The data were processed using the specialised software Statistical Package for Social Sciences (SPSS) v. 16.0 for Windows. The data collected were analysed using simple descriptive statistics (Location and dispersion measures) and assumptions were tested for the type of statistics to apply (parametric or non-parametric - Symmetry, Kurtosis, Normal Distribution, Homogeneity of Variance) to the variables under study. The following were applied as hypothesis tests: Kruskal-Wallis test and χ^2 Independence, as well as an association test (Odds Ratio, Prevalence, Prevalence Ratio). The interpretation of statistical tests was based on a significance level of $\alpha=0.05\%$ (95% CI). The results obtained generally indicated the following: 640 health professionals had a record of occupational accidents in the three years under study. Nurses were the group of professionals with the highest number of occupational accidents (49%), followed by Medical Auxiliaries (33.4%). We can conclude that the highest number of occupational accidents occurred among female professionals. In 2006 and 2007, the accident that occurred the most to older professionals (age) was "contact with chemicals". On the other hand, "needle sticks/cuts" occurred mostly among younger (age) healthcare professionals. 2006 and 2007 were the most critical years for the two professional groups mentioned above, when the number of accidents doubled.

Born to be Wild! Motorcycling: a risky activity!

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ABSTRACT

Objectives: Every day, about 3,000 people die and 30,000 are injured in road accidents worldwide. In Portugal, road accident rates are an alarming Public Health problem. The death toll is much higher than the EU average. In 2007, accidents involving two-wheeled vehicles accounted for 22% of fatalities and 26% of serious injuries. The objective of this exploratory study was to contribute to the characterisation of motorcycle accident victims in the Lisbon area.

Methodology: Descriptive, retrospective, cross-sectional study with a convenience sample comprising 258 motorcycle riders, of which 178 met the inclusion criteria (having had at least one motorcycle accident); a questionnaire was administered by an interviewer in the Greater Lisbon area. Variables were collected on i) socio-demographics, ii) characterisation of the accident, iii) use of personal protective equipment and iv) health outcomes.

Results: One hundred and seventy-eight respondents (155 men, 23 women; average age 34.2 years [minimum 17 years, maximum 66 years]) were involved in at least one accident. Younger riders reported adopting the most undesirable behaviours, wearing less Personal Protective Equipment (n=8 wore 1 or 0 PPE Items; 58.1%; $p=0.008$) and driving without a licence more often (n=26; 14.6%; $p=0.001$). Fifty-nine percent (n=105) of respondents were admitted to Emergency Services; of these, 40.9% (n=43) were hospitalised, with an average admission period of 25 days; Head and neck injuries are associated with a higher number of hospital admissions (80.8%; n=21; $p=0.000$) versus 14.5% (n=152) with no damages to those anatomical sites.

Conclusions: The growing number of motorcycles in circulation and its consequences (early death and permanent disability), entailing the need for specialised and costly healthcare resources, have devastating economic and social consequences, which deserve a greater understanding of this phenomenon and a more effective intervention by the health sector.

New Technologies in the Traffic Psychology Test and their Contributions to a More Effective and Sustained Medical Evaluation

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ABSTRACT

A summary analysis of road accidents leads us to view the human element as an important, even decisive, factor for the current accident rate. This fact implies the need to find the most adjustable responses, through multidisciplinary practice and, in particular, in the context of Public Health (medical and psychological examinations for drivers) and Land Transport (rehabilitation, training and learning, certification of drivers and accident investigation).

Only then will it be possible to assess the validity of the interference of new medical-psychological assessment models in the study of human skills and performances, from a perspective of a minimum "screening" to identify and address indisputable causes of inability and/or restrictions for vehicle operating, according to the various age groups of the target population and the driver population (private and professionals). To this aim, it becomes necessary to resort to specialised services in Traffic Psychology, based on the most advanced and innovative technologies in computerised psychological diagnosis, particularly the Vienna Test System (VTS), already translated into more than 26 different languages. This is the only equipment currently certified with the Quality Management System Medical Devices EN ISO 13485:2003. It was developed by Europe's largest developer of scientific devices for Psychology and Medicine, "Schuhfried GmbH" (Austria).

The automation and modernisation of current work methods, using computerised psychometry, enable a new approach to the methodology of psychological testing and diagnosis, based on individual performance simulation models and on strategy simulation, anticipating an interface between operating suitability and actual performance, particularly in activities involving high risk and/or entailing certain psycho-professional requirements.

Thus, highlight must be given to the indispensable cooperation and joint efforts undertaken by the various professionals working on the field, in a perspective of multidisciplinary approach while safeguarding the technical and scientific qualifications of the stakeholders, in the search for preventive and rehabilitative solutions, in view of a greater involvement of Traffic Psychology and Medicine in the development of a more efficient Public Health policy, given the obvious implications of the interference of the human factor in Traffic Safety.

TOPIC

AIDS

HIV/AIDS in Prison Facilities – North Region”

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ABSTRACT

This Study has the following objectives: To characterise Prison Facilities (PFs) operating in the Northern region and their inmate population; to determine the average doctor and nurse time per inmate and per PF; to determine the prevalence of inmates with HIV/AIDS; tuberculosis and HIV, hepatitis B and/or hepatitis C; to identify preventive measures implemented in relation to Sexually Transmitted Infections (STIs) and consumption of illegal drugs, and to identify training needs felt by professionals.

Methodology: Cross-sectional, quantitative study, based on the application of a structured questionnaire to the directors and persons in charge of PFs' clinical services. The data refer to 31 December 2006.

Results: Twelve PFs were in operation (ten for males, one for females and one for both genders). They all answered the questionnaire. These PFs comprised 1270 cells, 103 wards, 1110 prison guards and 335 other Professionals. Of the 3169 inmates, 82.8% had been convicted; The overall mean time spent per week, per inmate, by physicians was 12.2 minutes and by nurses was 34.6 minutes. The prevalence of inmates with HIV/AIDS was 8.4% (76.4% were on antiretroviral therapy). The prevalence of inmates with HIV/AIDS and TB was 0.4% (100% were on therapy for tuberculosis). The prevalence of inmates infected with hepatitis B was 1.9%, with hepatitis C 21.7%, with hepatitis B and C 1.1%, and with HIV and at least one of hepatitis B and C 6.1%. Eight of the twelve PFs had implemented measures to prevent sexually transmitted infections and the consumption of illicit psychoactive substances. Training needs were felt in all PFs.

Conclusions: The prevalence of inmates with HIV/AIDS was lower than the national percentage (10.2%). Most PFs had implemented preventive measures or that focused on reducing risk and minimising harm associated with the consumption of illicit psychoactive substances. All PFs provided condoms, mostly through clinical services, but also at other locations (bars, toilets and libraries), others only upon request by inmates. All PFs reported having unfulfilled training needs, and suggested that the health services cooperated in the conduction of activities focused on the needs felt by the professionals and inmate population, particularly in the areas of drug addiction, TB and STIs (hepatitis and HIV/AIDS).

AIDS and Public Health: sexual behaviour of university students

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ABSTRACT

Introduction: In their attempt to reduce risky sexual behaviours and increase protective measures against HIV infection, public health campaigns to promote the use of condoms did not have the expected results, especially among adolescents and youths.

Objectives: This study attempted to identify and analyse the factors that may lead to negligence in the consistent use of condoms by young people.

Methodology: For this purpose, a structured and direct questionnaire was administered to a sample of 696 students from 8 Faculties of the University of Coimbra, aged 18 to 24. The study was cross-sectional, correlational and descriptive, with accidental sampling. The quantitative analysis was performed using SPSS 15.0, for a significance level of 95%.

Results: It was found that the level of knowledge about HIV/AIDS

showed no statistical relationship with the perception of being at risk ($\chi^2=0.621$; $p=0.431$), or with embarrassment when purchasing condoms ($r=-0.059$; $p<0.05$); on average, girls showed a more favourable attitude towards condom use than boys ($M=47.89$; $p=0.000$ vs $M=45.05$; $p=0.000$); students who used a condom in their last sexual intercourse had, on average, a more favourable attitude toward condom use ($M=47.76$; $p=0.000$); the majority of students who reported having used a condom in their last sexual intercourse had no stable sexual partner, while only a small number of students in a stable relationship for over two years reported having used a condom in their last sexual intercourse ($\chi^2=204.32$; $p=0.000$); the more favourable the attitude toward the use of condom, the less embarrassment is felt in its acquisition ($r=-0.092$; $p=0.01$) and during the negotiation for its use ($r=-0.24$; $p=0.00$); the more favourable the attitude toward the use of condoms, the less embarrassment in their actual use, although the difference has no statistical significance ($r=-0.046$; $p<0.05$); the higher the knowledge about HIV/AIDS, the less embarrassment is felt in the acquisition of condoms, despite no actual significance ($r=-0.059$; $p=0.01$).

Conclusions:

- a more favourable attitude towards condom use is predictive of its use in the last sexual intercourse;
- the more favourable the attitude towards the use of a condom, the less embarrassment is felt in its acquisition and negotiation for its use;
- the higher the level of knowledge on HIV/AIDS, the less embarrassment is felt with condom use;
- the use of condom or lack thereof does not depend on the average number of sexual partners, although its use increases with the average number of sexual partners.

HIV/AIDS: a study of admissions to public hospitals in the Mainland and of the mortality data available in Portugal since 2000

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ABSTRACT

The objective is to characterise HIV/AIDS in terms of admissions to public hospitals in the Mainland and mortality data available in Portugal since 2000.

Methodology: The morbidity information was collected from the database of Diagnosis-Related Groups (DRG) (2000-2007), and mortality data were collected from the Official Death Databases (2000-2005) allowing the demographic characterisation and calculation of crude and standardised rates.

Results: With regard to admissions, in the eight years that comprise the studied period, the number of discharged patients stood at 35496, resulting in an annual average of about 4400 patients discharged. Regarding the geographical distribution of patients discharged, asymmetries were found by district, with a pattern that has changed. Distribution by gender is characterised by a greater number of discharges among males, with the M/F ratio decreasing from 3.2 to 2.9. The average age rose (2000 – 36 and 2007 – 42 years). The in-hospital mortality rate decreased but remains high (13.7% - 2007), much higher than the overall rate for the Mainland. The average admission time (2007 – 18.1) has been decreasing, although it is still well above the national average. In 2007, the total direct costs of discharged patients amounted to 22 million euros.

Regarding mortality, the number of deaths in the country peaked in 2001 (1026), and thereafter showed a decrease from its current number, 876 in 2005. The distribution of mortality by gender maintained its usual pattern, with 80% for males.

Standardised mortality rates (SMR) show asymmetries by health region, with Lisbon and Tagus Valley (Lisboa e Vale do Tejo - LVT) presenting the highest rate, followed at a great distance by the Algarve and the North. The evolution of SMRs is decreasing for the LVT and North regions and increasing for the Algarve.

Conclusions: Admissions have changed in geographical terms, in terms of F/M ratio, and patients are increasingly older people, with debilities, addictions and serious associated pathologies. These are costly admissions, as they require a great amount of resources – high average admission times and high costs. Mortality seems to follow the changes observed in admissions.

Prostitution and Infectious Diseases in the Municipality of Oporto: An Intervention Project in Community Health

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ABSTRACT

Introduction: The city of Oporto concentrates a large number of people with severe economic and social deprivations, who resort to drug trafficking and prostitution, and who are marginalised. All these factors may be related to certain risk behaviours and to a more limited access to health services.

In this sense, the Oporto Health Authority (AS) has developed partnerships with the several social solidarity institutions providing support to these risk groups, aiming at obtaining a diagnosis of the health status of the poorest people in the municipality, intervening in order to safe-

guard the interest of the community and of individuals who usually do not resort to Health Services. Since April 2006, the Community Health (SC - Saúde Comunitária) Team of the Oporto AS visited dozens of locations in Oporto where there is concentration of this poor population, both during the day and at night, using a mobile service unit.

This study aims to characterise individuals who admit to engage in prostitution on the streets of Oporto, based on the data collected by the SC Team of the Health Authority since 2006, within the SC Intervention Project in the Municipality of Oporto.

Methodology: Using the data collected in interviews to the individuals who resorted to the mobile service unit since 2006, a computer database was created using the EpiInfo software. A univariate analysis was conducted on the variables collected.

Results: Of the 865 individuals interviewed between April 2006 and February 2009, 312 admitted to prostituting and constituted the population for the study. 87.2% of the individuals interviewed were females and 28.8% reported being of foreign nationality.

18.3% admitted to regularly using illegal substances and 6.1% admitted alcohol abuse.

7.7%, 1.9% and 5.8% of subjects reported, respectively, being HIV, HBV and HCV positive.

1.6% reported having had at least one episode of TB.

Conclusions: Among the individuals interviewed, HIV infection is predominant, followed by hepatitis C. This is an initial descriptive approach to the problem, and it will be necessary to develop other explanatory studies, namely to get to know the predominant route of transmission among these individuals, in order to design appropriate intervention strategies.

TOPIC

COMMUNICABLE DISEASES

Drug Addiction and Infectious Diseases in the Municipality of Oporto: An Intervention Project in Community Health

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ABSTRACT

Introduction: Drug addiction is currently one of the greatest challenges to public health. The city of Oporto concentrates a large number of people with severe economic and social deprivations, who resort to drug trafficking and prostitution, and who are marginalised, with large fluctuations due to the special characteristics of its individuals.

In the city of Oporto, there are several social solidarity institutions providing support to these risk groups, with which the Oporto Health Authority (AS - Autoridade de Saúde) has established partnerships aiming at obtaining a diagnosis of the health status of the poorest people in the municipality, intervening in order to safeguard the interest of the community and of individuals who usually do not resort to Health Services. Since April 2006, the Community Health (SC - Saúde Comunitária) Team of the Oporto AS visited dozens of locations in Oporto where there is concentration of this poor population, both during the day and at night, using a mobile service unit.

This study aims to describe the drug addict population of Oporto, based on data collected by the SC Team of the Oporto Health Authority since 2006, as part of the Intervention Project in SC in the Municipality of Oporto

Methodology: Using the data collected in interviews to the individuals who resorted to the mobile service unit since 2006, a computer database was created using the EpiInfo software. A univariate analysis was conducted on the variables collected.

Results: 865 individuals were interviewed between April 2006 and February 2009. Of these, 500 admitted to regularly using illegal substan-

ces, and constituted the population of the study.

Their age was between 18 and 59 years, and the mean and median ages were 37 years. 79.2% were males.

Respectively 25.6% (14.8% women and 27.5% men, p=0.054), 10.4% (5.8% women and 11.6% men, p=0.082) and 31.2% (19.2% women and 34.3% men, p=0.003) reported being HIV, HBV and HCV positive.

5.4% (3.8% women and 5.8% men, p=0.431) reported having had at least one episode of TB. 15.4% were participating in an opiate substitution programme with methadone.

Conclusions: The results suggest an association between drug addiction and infectious diseases, which is in agreement with the results of similar studies. The predominant infection is Hepatitis C, followed by HIV. The percentage of males infected with HCV is higher. A high percentage of individuals affected by these diseases in this community suggests the need to develop intervention strategies, namely secondary and tertiary prevention.

Interrupting routes by sanitising hands: explaining, showing and demonstrating the effectiveness of handwashing. A proposal for School Health

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ABSTRACT

The dissemination of new healthier, scientific evidence-based behaviours among children in ages considered permeable to information is a major goal for health education. Health-promoting schools aim at a comprehensive approach to the promotion of health (Mukoma&-

Flisher, 2004; Moysés *et al.*, 2003), implementing policies, procedures, activities and structures that result in the protection and promotion of health and well-being of all members of the school community (Rissel & Rowling, 2000). In general, one can say that, in this context, school is a place for continuous learning and integrated development, in its several spaces, both in and outside the classroom (Moreira, Silveira & Andreoli, 2006).

Among the health promotion measures intended to prevent the transmission of infectious agents, handwashing is one of the most important and, in this sense, the aim is to promote, through the development and implementation of a protocol for experimental activity, adherence to new, health-promoting habits, disseminating a new morale and a new way of living life, through active participation in health rituals. Thus, two major Hygiene and Health questions will be answered: why we need hygiene and how do microorganisms spread. The goal of this activity is to evaluate the effectiveness of toilet paper as a barrier against contamination by microbial agents, by simulating a trip to the bathroom and combining it with handwashing, subsequently measuring the level of contamination before and after washing one's hands, using microbial culture dishes. Thus, participants will be able to verify the reduction of the microbial load achieved by handwashing. The use of communal towels in public bathrooms is also recognised as a major focus of contamination and spreading of microbial agents, so this activity includes a "blank" sample, in which one participant, at the end of the activity and after a few rounds of use of the towel for drying hands, will also use it after washing his/her hands and check for contamination using another culture dish. To explain, show and demonstrate the power of handwashing against the spreading of microorganisms and for the transformation of children's habits is the main objective of this proposal for experimental activity in the context of School Health.

Tuberculosis in Portugal: a gender issue?

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ABSTRACT

Description of the study: Purpose – To contribute to the characterisation of the epidemiology of tuberculosis in Portugal.

Methodology:

a) Type of study and population under study – Characterisation, through a descriptive observational study, of the distribution of tuberculosis by gender, in the population of individuals residing in Portugal (mainland and the autonomous region of Madeira), with confirmed diagnosis of tuberculosis and who began receiving specific treatment in 2006.

b) Inclusion criteria:

1. Confirmed diagnosis of tuberculosis (Case definition - Case with isolation of *Mycobacterium tuberculosis* in culture);
2. Case reported through the tuberculosis surveillance system (SVIG_TB), which feeds data to the national database, managed by DGS.

Results presented in graphs and tables

Conclusions:

1. Lower incidence of the disease in women, possibly related to lower exposure to risk factors;
2. Cases tend to concentrate during reproductive ages in both genders, but more noticeably in women;
3. Men seem more prone than women to interrupting the treatment and more frequently in reproductive ages.

Introducing the "SAPUVETNET III PROJECT" to the Medical Health sector

Projeto SAPUVETNET III DCI-ALA/2008/75 "Contributing to the Millennium Development Goals through the One Health Concept" funded by the ALFA III Programme DCI-ALA/19-189, European Commission.

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ABSTRACT

Emerging and re-emerging zoonotic diseases are gaining global importance for public health. One of the major concerns for health services is globalisation and the easy travelling around the world of persons, animals, and their products, in short periods of time, usually shorter than the incubation periods of most infectious diseases. This will certainly contribute to the emergence and rapid spreading of diseases in places where they had never been detected previously. Epidemiological surveillance and emergency response need to be strengthened and there is an urgent need for awareness raising and the translation of theory into effective action. International educational strategies have an important role in achieving these goals. Universities need to increase their involvement in the approach to the human-animal interface and promote the concept of One World - One Health, a joint initiative launched by FAO, OIE, WHO, UNICEF and UNSIC in October 2008.

Objectives: To contribute to the development of Veterinary Public Health (VPH) in higher education through cooperation between the Schools of Veterinary Medicine of Europe and Latin America, in order to qualify professionals and address problems related to VPH within the One World - One Health approach. In addition, human resources (physicians and veterinaries) in Public Health will be developed with the aim of solving common problems.

Methodology: Several activities are planned in order to achieve the goals set, such as the development of a training programme/module on VPH, a distance learning course, 3 e-conferences to be attended by professionals and medical and veterinary students of both continents. Additional actions include sending invitations to higher education institutions in the field of Human Medicine encouraging their participation in the resolution of common problems.

Expected Results

- Educational material validated and used by partner institutions.
- Adoption of innovative education methods.
- Creation, implementation and dissemination to all external partners in the field of Higher Education of common knowledge in VPH.
- Initiation of dialogue with a component of public health, commitment to human health and public awareness of VPH issues within the concept of One Health.
- Students and professionals try the innovative teaching method and improve their educational skills in VPH topics.

Cognitive and Behavioural Assessment of the Population of Seara in Relation to Leptospirosis

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Keywords: assessment, cognitive, behavioural, population, leptospirosis

ABSTRACT

The goal of this study was to assess the knowledge and behaviour of the population of the parish of Seara (Municipality of Ponte de Lima) in relation to leptospirosis. The aim was to evaluate some factors that could interfere both with the knowledge and the behaviour of the inhabitants of that parish. To achieve this goal, a cross-sectional cohort, descriptive-correlational study (level II) was conducted. The Target Population of this study was the population recorded in the last census in the parish of Seara, using a sample of 137 inhabitants. The sample design was non-probabilistic as far as the type of sampling was concerned and the technique used was Convenience. The inclusion criteria were residence in the parish of Seara and age ≥ 18 years, both genders.

The data collection was conducted using a collection instrument (Survey) administered by an interviewer, initially focusing on a description of the participants' socio-biographical data and subsequently developing into two other more conceptual phases which assessed the "General knowledge of the population on leptospirosis" and also the "Types of risk behaviours taken by the individuals in relation to leptospirosis". The analysis was conducted using simple descriptive statistics, location and dispersion measures, and assumptions were tested as to the type of statistics to apply. When looking for differences between the two groups, the hypotheses were verified using the Mann-Whitney test or, for more than two groups, the 1-Factor Anova, plus the Tukey HSD multiple-comparison and Kruskal-Wallis tests. In order to verify the correlation, Pearson correlation tests and Spearman's Rho tests were used. Lastly, in order to evaluate the interaction of variables in relation to significant differences, the N-Way Anova test (analysis of variance on more than one fixed factor) was used. The interpretation of statistical tests was based on a significance level of $\alpha=0.05$ with 95% CI. The data were processed using the statistical software SPSS version 15.0 for Windows. We can conclude that the population under study has some knowledge on Leptospirosis and does not show high risk behaviour. A possible justification for this lies in the fact that an outbreak of this pathology has occurred in the parish and people received clarification on it and were made aware of some preventive measures.

Assessment of the Degree of Knowledge and Risk Behaviour in relation to the Avian Influenza

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ABSTRACT

The poultry industry is a sector of great economic impact, on a national level and, in particular, in the region where the study was conducted, in the parish of Campia, municipality of Vouzela, district of Viseu. In the region under study, many families are involved in the industry and an avian influenza pandemic could have serious consequences. The general goal of this study was to evaluate the degree of knowledge and behaviours of the population of the parish of Campia in relation to Avian Influenza. In order to evaluate the level of knowledge of the population, and whether it was prepared to act in case of an outbreak of the disease in question, a level II (descriptive-correlational) study was conducted, with a cross-sectional cohort. The number of participants was $n=276$ inhabitants ≥ 18 years of age. In terms of sample design, the type of sampling was Non-Probabilistic and the technique used was Convenience/Accidental. A survey (self-administered) was applied to assess the knowledge and behaviours of respondents in relation to avian influenza.

The collected data were analysed using simple descriptive statistics and assumptions were tested for the type of statistics to apply (Symmetry, Kurtosis, Normal Distribution, Homogeneity of Variance) to the variables under study. The following were applied as hypothesis tests: 1-Factor Welch ANOVA, Pearson's r , Spearman's rho, Student's for independent samples, Mann-Whitney, Kruskal-Wallis and Multiple Linear Regression (MLR). The interpretation of statistical tests was based on a significance level of $\alpha=0.05\%$ (95% CI).

Overall, the studied population has a satisfactory level of knowledge on Avian Influenza, as percentages of correct answers were above 70% in questions concerning the evaluation of the degree of knowledge on the subject under study. As for behaviours, many of the individuals of the sample indicated having adopted correct behaviours and safety measures against a possible pandemic. However, only 31.2% reported taking special care in preparing poultry meat and its derivatives.

TOPIC

COMMUNICABLE DISEASES – SURVEILLANCE

Surveillance of vector-borne diseases in Portugal: trends and challenges in the event of emergencies and environmental changes

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ABSTRACT

Vector-borne infectious diseases have emerged as a result of changes in health policies, demographic, social and ecological changes, resistance to insecticides and antimicrobials and genetic changes in pathogens. Research on vaccines, non-polluting insecticides, alternative control measures for vector populations and the implementation of training programmes for workers in the field of health and environment are a few examples of initiatives that can contribute to the control of these diseases. In order to achieve this goal, it is necessary to identify the existing problems in each geographical area and characterise the eco-epidemiology of the different pathologies. From 1987 onwards, the Centre for the Study of Vectors and Infectious Diseases Doutor Francisco Cambournac (CEVDI - Centro de Estudos de Vectores

e Doenças Infecciosas) initiated several research projects and disseminated reference laboratory diagnosis methods in Portugal. This paper presents the results obtained in the last three years of monitoring of the vector-borne diseases studied at CEVDI (Lyme borreliosis, Q fever, ehrlichiosis/human anaplasmosis, Mediterranean spotted fever, arboviruses, hantaviruses and arenaviruses) in order to assess their Public Health impacts in Portugal.

Biological samples (blood, serum, plasma and CSF) were studied using immunological methods (IFA, ELISA and immunoblot), as standardised for the different etiologic agents. The positivity threshold adopted resulted from previous works performed taking into account the Portuguese population and technique.

In the period from 2006 to 2008, the studies comprised 2437 patients for Lyme borreliosis, 2362 for Mediterranean spotted fever, 1674 for Q fever, 346 for arboviruses, 172 for ehrlichiosis/human anaplasmosis, 157 for arenaviruses and 154 for hantaviruses. Laboratory diagnosis allowed confirmation in 2 to 14% of the cases studied each year. The analysis of the results confirms that, with the exception of ehrlichiosis/human anaplasmosis, the nosological entities under study occur in Portugal and have an impact on Public Health, with particular emphasis for Mediterranean spotted fever.

From the response to a possible influenza pandemic to the molecular diagnosis of 12 respiratory viruses

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Keywords: pandemic, laboratory, Level 3

ABSTRACT

Objectives:

- To prepare the Clinical Pathology Laboratory for an adequate response against a possible pandemic;
- To implement the identification of the viral aetiology of the "flu syndrome".

Methodologies:

- Creation of a Level 3 Biosafety Laboratory;
- Establishment of cooperation with Addenbrooke's (Clinical Microbiology and Public Health Laboratory, Molecular Diagnostic Microbiology Section), Cambridge, UK;
- Annual staged internships in Cambridge in 2006, 2007 and 2008;
- Setting up of the methodologies for the molecular diagnosis of H5: in 2006, a Multitest (Real-time PCR) for Influenza A, Influenza B and H5, and a confirmation test for H5 (FRET), conducted bi-weekly;
- Setting up of the methodologies for the simultaneous molecular diagnosis of 12 respiratory viruses (RT-PCR) in 2008;
- Implementation of the identification and viral aetiology of the "flu syndrome" in 2009.

Results: Introduction of the techniques into routine procedures, aiming at the identification and characterisation of patients with influenza syndrome and/or other respiratory infections.

Conclusions: Creation and continuous update of methods for molecular detection of respiratory infections and more effective contribution to their diagnosis and therapeutic monitoring.

Characterisation of reported cases of Epidemic Parotitis (mumps) from 2002 to 2007 in the Region of Northern Portugal

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Keywords: epidemic parotitis, epidemiological characterisation

ABSTRACT

Epidemic parotitis (mumps) is an acute viral disease characterised by fever and swelling of one or more salivary glands. In most cases, the disease occurs during childhood or adolescence. Before a vaccine was commercially available, mumps was a common infectious disease worldwide. Its annual incidence varied between 100 and 1000 cases per 100,000 inhabitants. The aim of this study was to characterise the epidemiology of mumps cases reported in the Northern Region (NR) in the period 2002-2007.

The analysis comprised the data of mumps cases reported in the NR in the period 2002-2007, obtained from the consultation of Model no. 1536 and of the respective Epidemiological Inquiry reports. An epidemic curve was constructed for the mumps cases reported between 1991 and 2007 in the NR and in the Country. The relative frequencies and mean annual reporting rates per 100,000 inhabitants were calculated by region and by district.

The number of mumps cases reported in the NR for the 2002-2007 period was 92. The highest numbers of reported cases were recorded in spring. The proportion of reported mumps cases was higher in males (59.8%). The average age of occurrence of the disease was 8.2 years. Of the 92 reported cases, seven were not vaccinated (7.6%), and of these, one had not yet reached the vaccination age. The mean annual reporting rate for mumps in the region was 0.47 reported cases per 100,000 inhabitants. The highest number was recorded in the district of Vila Real. In Bragança, no case of mumps was reported.

This study presents the limitations inherent to the Compulsorily Notifiable Disease (CND) information system, namely those resulting from

underreporting and those resulting from the fact that it is unfeasible to trigger procedures to confirm cases, which would rule out false positives. The reporting rate and the fact that no outbreaks were detected during this period indicate that, in the NR, the disease under study is controlled, probably as a result of vaccination, as the vaccine coverage is high among children and young people, and the vaccine has a 95% efficacy. The high impact of vaccination against mumps allowed controlling the disease. In order to ensure the control of epidemic parotitis, it is necessary to maintain a high vaccination coverage and an epidemiological surveillance system.

Underreporting of Compulsorily Notifiable Diseases in the Municipality of Penafiel

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ABSTRACT

Objectives:

1. To increase the percentage of Compulsorily Notifiable Diseases (CND) reported to the Health Authority of the Municipality of Penafiel;
2. To streamline the Municipality's CND Reporting System, making it more efficient and enabling Public Health Services (PHS) to intervene more quickly;
3. To invest in a better coordination between the entities that comprise the System (Physicians, the Health Authority, the Department of Public Health of the Regional Health Administration and the Directorate-General of Health);
4. To speed up the process of reporting CNDs after their diagnosis and the subsequent epidemiological investigation, as well as improving its communication to reporting physicians;
5. To decrease the average time period elapsed between the diagnosis of the infectious disease and its knowledge by the Health Authority.

Methodology:

1. Training and informing the physicians of the Tâmega e Sousa Hospital Centre and the Primary Care Centre of Penafiel and São Vicente Thermal Spa on the CND information system;
2. Ensuring that all physicians working in the Municipality are provided with CND reporting forms;
3. Tracing periodical epidemiological profiles of the main communicable diseases reported in the Municipality.

Results: CNDs reported in the Municipality of Penafiel from 2002 to February 2009 totalled 305 cases, of which Tuberculosis accounts for nearly 90% since 2008 (73 cases in 81 reports).

The fact that the reporting of other infectious diseases has little expression should not make one believe they are irrelevant, given the phenomenon of underreporting. The low number of reported CNDs should rather lead to a search for measures that can be implemented so that physicians report all diagnoses of CNDs, whether confirmed or simply suspected.

Conclusions: Despite the antiquity of the Portuguese CND surveillance system, there are still many gaps, namely regarding the underreporting of diseases. Although this phenomenon is not quantified and reality can vary greatly from one municipality to another, reporting duties are far from being fully fulfilled and reports are often submitted too late. The ignorance, on the part of physicians, of which diseases are included in the list of CNDs and of the reporting procedures is another issue that requires special attention by Public Health Services.

In this sense, it is essential to intervene with the professionals who diagnose communicable diseases in the Municipality.

Pertussis in Portugal in the period from 1997 to 2008

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Introduction: Between 2003 and 2007, the mean annual reporting rate of pertussis in several European countries was of 4 cases per 100,000 inhabitants, but some countries reported rates above 10/100,000. In Portugal, universal vaccination against diphtheria, tetanus and pertussis (DTP) began upon the start of the National Vaccination Program (NVP), in 1965. The current DTP vaccination scheme was introduced in 1990 and annual coverage rates varied between 93 and 99%. The assessment of the epidemiological situation of pertussis in Portugal involved the description of the trends observed from 1997 to 2008.

Methods: A retrospective analysis was performed on data obtained from the compulsorily notifiable disease reporting system, complemented by epidemiological enquiries. The reporting rates were calculated based on the total reported cases, by date of onset of symptoms, and on the annual estimation of Portuguese population at mid-year.

Results: From 1997 to 2008, 301 cases of pertussis were reported. In Portugal, during the 2004-2008 period, the mean annual reporting rate

was 0.4/100,000 inhabitants. The annual reporting rates increased and two peaks were recorded: one in 2005 (92 cases) and another in 2008 (68 cases). Children under two months of age were the most affected age group (137 cases, 45.5%). This ratio varies over time: 14% in 1997-2001 and 52% in 2002-2008. Between 1999 and 2007, of total cases with known vaccination status, 106 (64.6%) were not vaccinated. Of the 36 vaccinated cases with information on the number of inoculations, 26 (72.2%) contracted the disease after having received two doses of the vaccine.

Conclusion: Despite the increase over the last five years, the reporting of cases of pertussis in Portugal remained lower than the European average. The most affected part of the population were children under 2 months of age. The two peaks show a possible three-year cycle, as was described in other European countries. This suggests that the virus continues to circulate within the community and that underreporting is probably occurring in adolescents and adults, which are possible sources of infection for newborns.

The screening of adults and adolescents with pertussis of unknown origin and the development of a vaccination strategy for adults and/or young people are recommended.

TOPIC

ENVIRONMENT**Sanitary Safety and Quality in Health and Wellness Tourism**

Filomena Maurício Viegas Fernandes; João Viegas Fernandes

ABSTRACT:

General Objective: To contribute to the Development of Health and Wellness Tourism in Portugal.

Specific Objectives:

- To contribute for compliance with sanitary safety requirements;
- To contribute to the implementation of quality and excellence standards;
- To alert to the need for framework legislation for the sector;
- To develop a system for the accreditation and certification of Health and Wellness Tourism institutions.

Methodology: Comparative research on Best Practices in several countries in Europe, Asia, Africa and Latin America: the study included visits to hundreds of SPAs, dozens of Thalasso Therapy and Thermal SPA Centres, dozens of Medical Tourism Hospitals; inter/transdisciplinary bibliographic analysis of several areas: SPAs, Talasso Therapy, Thermal SPAs; Health; Nutritional Therapy and Dietetics; Complementary Medicines and Therapies; Ecology and Environment; Landscaping, Medicinal and Decorative Plants; Tourism, Health and Wellness Tourism, as well as Portuguese Legislation and European Regulations governing the quality of air and water and the protection of the health of users of SPAs, ThalassoTherapy Centres and Thermal SPAs. It also includes the study of major international journals on Health and Wellness Tourism, Medical Tourism, SPAs, Thermal SPAs and Thalasso Therapy Centres, as well as other journals that address relevant issues on the topics under study.

Conclusions: Health is too important a matter to be jeopardised by inadequate design, poor maintenance or insufficient training of medical, therapeutic and technical staff of health and wellness tourism institutions. This is valid for medical tourism hospitals and clinics, as well as for SPAs, Talasso Therapy Centres and Thermal SPAs.

Health and wellness tourism institutions should be designed by a multi-interdisciplinary team that includes specialists in health and wellness tourism, physicians, architects, engineers, and landscape artists, with specific training in this field. Several scientific areas must be combined/coordinated with empirical knowledge acquired through studies conducted by leading international institutions.

The maintenance of the facilities and equipment must be permanently

ensured by a team with experience in this specific type of facilities and infrastructures. The quality of air, water, the facilities and the equipment must be systematically monitored and guaranteed.

All staff administering therapy must possess the proper skills (from a technical, communication and holistic point of view) and professional qualifications.

In terms of medical tourism, the quality of the Institutions' facilities and the several specialities of the medical staff must be certified.

Health tourism is a profitable business, with great growth prospects and increasingly subject to competition, in terms of the quality-price ratio among companies operating in the same country and in same geographical area and worldwide. The future of any company in the field of medical tourism, SPAs, Thermal SPAs and Thalasso Therapy depends on the quality and safety image it manages to build in the course of its activity. Defects in quality and safety (affecting the health of users) can jeopardise public health, discredit a company, a region or a country, and will cause a business to fail.

In our professional practice and our research, we have come to detect large gaps in quality and sanitary safety in Portugal, in the hotel industry and particularly in health and wellness tourism institutions.

Health tourism in Portugal lacks framework regulations/laws, as well as a specific accreditation and certification system.

The future of health tourism in Portugal will be that which tourism entrepreneurs, Government Institutions, and technicians in various fields of knowledge can and want to jointly build in our country.

Sustainability and environmental management of healthcare facilities

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The activity developed in hospitals ensures the health of populations, which is inseparable from quality of life and community development, which in turn generates environmental impacts.

In public health, environmental surveillance consists of a set of actions that enable knowing and detecting any changes in determining and conditioning factors in the environment which interfere with human

health, in order to recommend and adopt measures to prevent and control risk factors and diseases or adverse effects related to environmental changes.

Aiming at promoting environmental surveillance, the intervention methodologies must be adjusted, in order to prevent pollution [changes in the balance conditions in the area affected by the healthcare unit (UPCS) and its surroundings which produce adverse effects].

Prevention is based on an integrated management system, which allows analysing, quantifying and minimising negative impacts, optimising resources, the life cycles of products and the means of contamination prevention.

Environmental management and the mandatory environmental policy, targets and goals involve the optimisation of resources, optimisation of consumption, minimisation of emissions into the water environment and into the air (outdoor or indoor), minimisation of waste production, minimisation of health risks (users, employees and the general community) and specificities in the healthcare provided.

The sustainability of a UPCS is a two-stage intervention: design/cons-

truction of the project and management and qualification of services, as enshrined in the “Green Guide for Health Care” (GGHC), made possible at any stage of the installation by applying the principles of environmental management.

Combining existing models but taking into account their applicability to existing healthcare units, where reality conditions the intervention and no technical documents are available from the entities responsible for the administration of the health system, a methodology was established for the intervention, whose implementation is part of the goals of the environmental management programme of ARS Centre Region. Its implementation is carried out both at the project level and at the level of healthcare units, in the areas of air quality, hospital waste management and prevention of Legionella pneumophila.

It has come to be reflected in the analysis of the sustainability of projects and in the definition of policies and intervention plans to minimise risks, optimise resources and ensure compliance with legislation.

TOPIC

ENVIRONMENT – AIR

Indoor Air Quality in Healthcare Units

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ABSTRACT

Framework: The waiting rooms of Public Healthcare Units are places regularly occupied by users and patients and are, therefore, privileged places for the transmission of respiratory infections. The indoor air quality of these spaces is measured using several parameters and is associated to the ventilation conditions and thermal environment.

Purpose and Objectives: To contribute to reducing the incidence of respiratory infections and seasonal influenza related to the indoor air quality of healthcare service facilities. To get to know the parameter scores for the evaluation of thermal comfort and CO₂ levels in the waiting rooms of Public Healthcare Units of the District of Viana do Castelo.

Methodology: This project was developed in the Primary Care Centres and Family Health Units of the Local Health Unit of Alto Minho, between the months of January and March 2009. The measurements were made during the normal operation of those health services. 53 waiting rooms in 12 Public Healthcare Units were assessed. All units had air-conditioning systems: 10 had localised air conditioning systems (split-type) and 2 had central heating. Mechanical ventilation systems were found in 8 of the 12 units. The number of measurements taken per establishment depended on the number, size and structural conditions of the waiting rooms and existing HVAC equipment. Multifunction monitors, equipped with specific probes, were used. The parameters evaluated were as follows: carbon dioxide and thermal comfort (temperature, humidity, pressure and air speed).

Results: With regard to thermal comfort, and in general, the scores obtained were within the range set by legislation, with the exception of the relative humidity parameter, which was outside the expected range in 56.6% (30/53) of the cases. It was found that, in 52.8% (28/35) of the sites, the concentrations obtained for the CO₂ parameter were above 1,000 ppm (maximum reference concentration).

Conclusions: The overall analysis of the results indicates that some waiting rooms did not meet the recommended environmental conditions for the thermal comfort of users.

The high concentrations of CO₂ measured, indicative of poor ventilation, may be associated with an accumulation of chemical and biological agents in the ambient air, which may lead to the onset/worsening of health problems.

In light of these results, a revision of the HVAC and mechanical ventilation systems and an efficient ventilation of spaces are recommended.

Air Quality in Nurseries - Fieldwork in Coimbra

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ABSTRACT

Because children are the most susceptible to the effects caused by the various agents polluting indoor air, special care must be taken in relation to the air quality of the facilities where they spend the most time, which are nurseries. Thus, the research objective adopted was to assess the indoor air quality of nurseries in the city of Coimbra, in terms of compliance with conditions required by law, particularly for carbon dioxide (CO₂) and carbon monoxide (CO), aiming at protecting the health of their users, the children. This was a Descriptive-Correlational study (level II). In terms of its nature (cohort) it was Cross-sectional. In terms of sample design, the type of sampling was Non-Probabilistic and the technique used was Convenience. The sample did not comprise all the nurseries in the city of Coimbra, but only 2. The assessment of the different spaces of each nursery was conducted using specific equipment to measure indoor air pollutants. The measurement of CO and CO₂ concentrations was conducted using a portable particle counter - TSIO, Q-TrakTM Plus – IAQ Monitor, model 8552/8554, with direct-reading electrochemical sensor. The data were treated using simple descriptive statistics (location and dispersion measures). The following were applied as hypothesis tests: Student's t test for one sample; Friedman's ANOVA test; Kruskal-Wallis test. The interpretation of statistical tests was based on a significance level of $\alpha=0.05$ with 95% CI. The data were processed using statistical software SPSS version 14.0 for Windows. After analysing the results, it was found that the CO concentration never exceeded the maximum reference value required by law in any of the physical spaces of the two nurseries, for the analysed period. However, it was found that the CO₂ concentration exceeded the legal limit in some physical spaces of the nurseries. It was found that, in some areas, such as the Babies' Room, the One Year-Olds' Room, the Older Children's Room and the Canteen, CO₂ reached critical concentrations during some parts of the day, in which the health of babies and children was at risk.

TOPIC

ENVIRONMENT – EVALUATION

Health Impact Assessment – a necessity or a challenge for Environmental Health?

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ABSTRACT

The physical environment is a key factor for public health in that its characteristics influence the existence of more or less favourable conditions for the development of human communities.

The adoption of increasingly urban lifestyles has given rise and aggravated new problems, as greater access and abundance of goods and services are linked to a large and diverse series of disorders, most of which related to the environment.

Thus, more and more people are exposed to various environmental agents, including biological, chemical and physical entities, in the air they breathe, the water they drink, the food they eat, the surfaces they come into contact with and the products they use. Sometimes, exposure to toxic agents is sufficient to cause adverse health consequences, such as birth defects, cancer, neuro-behavioural changes and respiratory diseases.

In 2002, the World Health Organization, through its World Health Re-

port, was already seeking to emphasise the importance of promoting a healthy lifestyle by reducing risks. Focusing on health risk assessment as a way to prevent diseases and accidents, the report stresses the importance of deepening the knowledge on the various risk factors, including environmental ones.

In 2007, Decree-Law 232/2007 transposed Directive No. 2001/42/EC into national law. This Directive sets forth that plans and programmes likely to have impacts on the environment must be subject to a Strategic Environmental Assessment process. Health is one of the areas that must explicitly and unequivocally be considered, and health authorities must issue opinions at several stages of the decision-making process.

It is up to the health sector to take the opportunity to contribute to a deeper understanding of the relationship between health and other environmental descriptors. Several issues are raised: How to approach plans and programmes of such diverse nature (e.g. sectoral plans with territorial impact, Municipal Master Plans)? How to establish links between environmental factors and health? How to identify and assess risks when available information is so scarce?

The assessment of the impacts of environmental factors on health is indeed a field that lacks depth and discussion by all those who work in the field of environmental health.

TOPIC

ENVIRONMENT – HOUSING

Housing and Health

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ABSTRACT

The objective of this project is to reduce health problems caused by housing. To achieve this goal, it is necessary to understand which are the main aspects of housing and its surroundings that can affect health. It is intended that this study is conducted in each municipality, as each area of the country has specific climate characteristics and building typologies, and each population has both economic and sociocultural particularities. Thus, a work tool is provided, which allows conducting a survey of the major needs, in order to guide housing and urban planning policies towards eliminating or minimising the problems identified.

The methodology used was a telephone survey, conducted by technicians from various departments of City Councils, which allowed to conclude, through the analysis of the data collected, which are the main health problems affecting people as a result of housing and its surroundings.

As a result of this study, City Councils can change some aspects of their policies in these fields, in order to provide their residents a better urban environment, as well as to encourage them to adopt healthier life styles. They may also launch campaigns to alert the population to the main problems detected by the survey, when initiatives require a change in behaviour by the population.

One of the conclusions of this study is that their home is where all people spend more hours. The layers of the population who spend more time at home, such as infants, children, sick and elderly people are more likely to develop health problems. It is easier to establish and enforce healthy conditions in the workplace than inside homes, where some persons are very vulnerable. Thus, through this survey, it is possible to identify which housing conditions can cause health problems for each

specific population. This will allow developing solutions to overcome or mitigate those problems, providing the conditions for a healthier life and reducing some health problems.

Accessibility in Classic Family Housing with the Approved Accessibility Plan - The Reality in the Municipality of Pombal

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Keywords: family housing, accessibility, plan

ABSTRACT

With research as the primary objective, this study sought to understand and evaluate the reality of conventional family dwellings (approved accessibility plan regarding general accessibility conditions) and the level of general knowledge on accessibility by the owners of these dwellings. This study is defined as descriptive and exploratory (level I). In terms of its nature (cohort) it was Cross-sectional. The target population were the residential dwellings of the Municipality of Pombal (sample n=30) and also the owners (1 element from each household) who joined our study. The type of sampling was Non-probabilistic and the technique used was Convenience. The collection of data was conducted using a grid to evaluate accessibility conditions and a survey to assess the general knowledge on accessibility (administered by an interviewer). The following were applied as hypothesis tests: Brown-Forsythe ANOVA with 1 factor; Kruskal-Wallis test; Mann-Whitney test and Adherence and Independence tests for χ^2 . The interpretation of statistical tests was based on a significance level of $\alpha=0.05$ with a 95% CI. The data were processed using statistical software SPSS v. 16.0. It was found that the

level of knowledge of the owners depends on age, education and whether or not they have children. It was found that older, less educated and childless owners, had a lower level of “knowledge on accessibility”. In terms of “accessibility conditions”, it was concluded that, in general, the dwellings had good conditions. As for “general mobility”, “general

access” and “accessibility in personal hygiene and food confection spaces”, the conditions were satisfactory. Lastly, the “public roadways” presented numerous architectural barriers for individuals with disabilities. Finally, the “public roadway accessibility” dimension did not influence the level of accessibility to accommodations by private individuals.

TOPIC

ENVIRONMENT – RADIATION

Dose distribution in a radiotherapy room

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ABSTRACT

The objective of this study was to determine the dose distribution in a radiotherapy room due to the use of a linear accelerator.

To this end, the study considered the typical geometry of a radiotherapy room, with two different approaches. On the one hand, the thickness of protective barriers was calculated in accordance with DIN 6847-2. And on the other, the results were compared with those obtained in a computer simulation using Monte Carlo methods, more specifically, the MCNPX 4 software. A 40x40x40cm PMMA phantom filled with water was considered as the means for dispersing radiation.

Protective barriers were calculated according to the method established by DIN 6847-2, assuming a weekly workload of 1×10^6 mGy.

To obtain the distribution of the radiation dose, the geometry of the room was implemented in the MCNPX software. A rectangular mesh tally was used to obtain the dose rates in the room and surrounding areas. The mesh tally used contains 100x100x100 individual cells, in order to cover the area under study.

Due to computational limitations, the head of the linear accelerator was not simulated; instead, a conical photon beam, with a Gaussian distribution and 14 MeV of energy was considered. For this reason, the simulation does not include radiation leakage or the presence of neutrons. The simulation results provide a spatial distribution of radiation doses throughout the entire volume of the room and allow pointing out the importance of details in construction and in the protection of professionals and of the public in a radiotherapy facility.

TOPIC

ENVIRONMENT – TEMPERATURE

Evaluation of thermal comfort in the public health service facilities of the northern region

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ABSTRACT

Introduction: In accordance with the 2008 Regional Contingency Plan for Heat Waves, the evaluation and management of risk associated with heat is the responsibility of public health services at the regional, district and local levels. This led to a decision to carry out a protocol in order to implement necessary measures, including: evaluation of thermal parameters in public health service facilities.

Objective: To maintain proper air conditioning, in order to ensure greater thermal comfort and renewal of air in closed spaces, decreasing the risk of worsening the health status of vulnerable/risk groups

Methodology: In order to achieve the above goal, the following thermal parameters were evaluated: air temperature (°C), relative humidity (%), carbon dioxide (ppm) and air velocity (m/s).

The locations under assessment were the busiest waiting rooms.

Prior to the measurements, an observation was conducted on the existing conditions at the locations evaluated, in terms of number of occupants/maximum occupancy, area, ceiling height, existence or absence of HVAC (heating, ventilation and air conditioning) systems, outer windows and lighting (natural, artificial or mixed).

The methods used for measuring air temperature, relative humidity and air velocity parameters were based on International Standards ISO 7730:2005 and ISO 7726:1998. The measuring of the carbon dioxide parameter followed an internationally recognised methodology: NIOSH.

Measurements were performed using a direct measuring equipment, brand Testo, model 435.

- The monitoring of IAQ was performed with a Model 0632 1535 probe, which measured the following parameters: air temperature, relative humidity and CO₂;
- Air Velocity was measured with a Model 0635 1025 probe.

The probes were placed at the height of the abdomen in a seated position, 0.6 m from the floor.

Results: Seven hospitals were evaluated in the northern region, in the following districts: Porto, Vila Real and Viana do Castelo. The evaluation of the parameters set out in the methodology revealed that over 50% of the spaces evaluated in the study do not offer environmental conditions for thermal comfort.

Conclusions: Regular monitoring of thermal conditions must be implemented and specific corrective measures must be determined to decrease the risk of worsening the health status of vulnerable/risk groups in public health service facilities.

TOPIC

ENVIRONMENT – WASTE

Evaluation of Structural Conditions for Hospital Waste Management and Audit on the General Knowledge (Sorting, Conditioning, Services and Practices) of Health Professionals of a Central Hospital

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The main objective of this study was to verify a hospital's structural conditions for the management of Hospital Waste (HW) and to assess the level of knowledge of Medical Auxiliaries (MA) on best practices in HW handling and management. To achieve this goal, a cross-sectional cohort, descriptive-correlational study (level II) was conducted. The target population comprised 962 MAs, with a representative sample of 277 respondents. The sampling design was Non-probabilistic and Convenience. The data were collected at the Hospitals of the University of Coimbra. Regarding the data collection method, two types of instruments were defined: A survey for "Assessment of General Knowledge on Sorting, Conditioning, Services and Practices" (self-administered); and a Check-list for Assessment of the Hospital's Structural Conditions for the management of HW (non-participant observation). The statistical treatment of the data was conducted using SPSS v. 15.0 for Windows. The descriptive analysis involved relative frequency measures and percentages, as well as location and dispersion measures. Assumptions were also tested for the type of statistics to apply. The following were applied as hypothesis tests: ANOVA with 2 fixed factors; ANOVA with 1 fixed factor; Kruskal-Wallis; Student's t for Independent Samples; Pearson's r correlation; Independence of χ^2 and Adherence of χ^2 . The interpretation of statistical tests was based on a significance level of $\alpha=0.05$ with a 95% CI. It can be concluded that the hospital had quite good conditions to implement best practices in HW management and that the overall evaluation of the hospital's structural conditions for HW management was associated with the type of care being provided, being less positive in services where the waste produced was considered less dangerous, in accordance with the legislation in force. Among the MAs evaluated, the professionals with the most years of experience showed a higher level of knowledge on HW sorting.

Attitudes of the Health Professionals of the Médio Tejo Hospital Centre (CHMT - Centro Hospitalar do Médio Tejo) towards Hospital Waste

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Efficiency in the management of Hospital Waste (HW) is closely related to the attitudes of health professionals.

Given this relationship, an investigation on the way they handle HW was deemed relevant.

General Objective

- To identify the attitudes of health professionals working in the emergency services of the Médio Tejo Hospital Centre regarding hospital waste.

Specific Objectives

- To monitor the procedures of health professionals for the sorting and disposal of HW in appropriate containers;
- To verify the existence of containers intended for the disposal of HW by health professionals in production sites, and their compliance with the provisions of Order No. 242/96 of 13 August;
- To verify whether professionals follow correct procedures and, if not, the reasons for such.
- A qualitative, descriptive, cross-sectional study was developed aiming at reflecting on the attitudes of health professionals in relation to HW.
- Twelve professionals assigned to the emergency service of CHMT were interviewed and a record was made of their attitudes towards the HW produced during the provision of healthcare in emergency services.

The following conclusions can be drawn from this study:

- health professionals have no training in matters of HW and are unfamiliar with legislation on their management;
- the sorting performed by the professionals is deficient;
- existing containers in HW production sites do not promote their correct sorting and lead to an inadequate disposal of HW of groups I and II in group III bags;
- there is a widespread opinion concerning the non-sorting of HW by medical professionals;
- there is a waste of bags for Group III HW - their size is not suitable for the produced material;
- in laboratories, the adequacy and distribution of containers was better for the disposal of HW, and may promote better practices in the sorting and disposal of waste.

It is considered that greater investment is required in the training of health professionals in matters of HW, as well as in the placement of suitable, easy to use containers for the proper sorting and disposal of HW.

TOPIC

ENVIRONMENT – WATER

Testing for *Salmonella spp.* in bathing water. Assessment in accordance with the new Directive

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E-mail: catarinamansilha@gmail.pt**Keywords:** *Salmonella spp.*, bathing waters, assessment, quality**ABSTRACT**

Objectives: On the mainland alone, Portugal has about 830 km of coastline with beautiful beaches bordering the Atlantic Ocean. The benefits of bathing in sea water are widely proclaimed, and the recreational use of sea water has long been recognised as a major influence on health and well-being.

The quality of bathing water is an important indicator of environmental quality and tourism development and essentially constitutes a relevant

factor for Public Health. Thus, among the requirements to ensure the use of bathing areas, which include accessibility, infrastructures and safety, the quality of the water is increasingly gaining importance. Current requirements have turned the microbiological contamination of surface waters into a matter of public and scientific concern. The monitoring imposed by the new Directive is limited to indicator microorganisms, not necessarily pathogenic for humans and, in this sense, correlation studies between these indicators and the presence of pathogenic bacteria, such as *Salmonella*, have gained increasing importance for Public and Environmental Health.

Methodology: Anticipating the future transposition into national law of Community Directive 2006/7/EC of the European Parliament and of the Council concerning the management of bathing water quality, the objective of this study was to investigate the following microbiological parameters: *Escherichia coli* (ISO 9308-3) and Intestinal Enterococci (ISO 7899-2) considered equivalent, respectively, to Faecal Coliforms and Faecal Streptococci identified in Decree-Law 236/98 and testing for *Salmonella* spp. (ISO 6340).

Samples were collected in 4 bathing areas, encompassing 27 beaches, during the bathing seasons of 2006, 2007 and 2008, in a total of 360 samples.

The sampling frequency was weekly or biweekly and, in accordance with legislation in force, began 15 days before the bathing season.

Results and Conclusions: The analyses revealed the presence of *Salmonella* spp. in 49 samples, being found in beaches rated as excellent according to the new Directive, which emphasises the importance of maintaining the role of Public Health in the assessment of the quality of bathing waters.

Emerging Public Health risks related to water

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ABSTRACT

The development and growth of the human population have created pressure factors, both qualitative and quantitative, on the sources of water intended for human consumption. Diseases associated with water are still currently an important factor causing morbidity and mortality, and pathogens play an important role.

Emerging pathogens are those that appear in a population for the first time or that have previously appeared, but whose incidence has increased or expanded into areas where they had never been reported before, for at least twenty years. Reemerging pathogens are those whose incidence has increased as a result of changes in their epidemiology.

Historical research on many diseases associated with humans have shown that the development of many pathogens is related to: migration flows that lead to the spreading of these agents, changes in environmental conditions (climate, artificial environments, changes in agricultural practices, etc.), development of new diagnostic methods, changes in human behaviour, emergence of new technologies and increased vulnerability of hosts.

The use of pesticides, herbicides and even the prescription of antibiotics has contributed to changes in the environmental conditions, leading to the emergence of more resistant strains.

Since 1970, several species of microorganisms of faecal or environmental origin, including water, were confirmed as pathogens. Examples include *Cryptosporidium*, *Legionella*, *Escherichia coli* 0157, the rotavirus and the hepatitis E virus. *Helicobacter pylori* is an example of an emerging pathogen that can be transmitted by water.

There is also a growing concern about a number of substances (synthetic and natural chemicals) which are suspected of interfering with the endocrine system of both humans and animals, causing adverse effects on health, such as some types of cancers, behaviour changes and anomalies in reproduction.

An endocrine disruptor is defined as an exogenous agent that interferes with the synthesis, storage/secretion, transport, metabolism, binding, action, or elimination of the natural hormones of the body, which are

responsible for regulating homeostasis and development processes. An important fact related to endocrine disruptors is the stage at which exposure takes place. In fact, the time when the exposure takes place may be more important than the exposure concentration. A single exposure at a particular stage of an individual's development may be harmful.

Comparison of Drinking Water Quality between two Municipalities of the islands of São Miguel and São Jorge, Lagoa and Velas (1996 – 2006)

Eduardo Cunha Vaz, Mário Nelson Freitas, Rosa Pinto

ABSTRACT

São Miguel is the largest island of the Azores Archipelago. With an area of 746.82 km², it is 64.7 km long and 8-15 km wide and has a population of 241,763 inhabitants (Source: INE, Census 2001). It comprises the Municipalities of Lagoa, Nordeste, Ponta Delgada, Povoação, Ribeira Grande and Vila Franca do Campo. São Jorge is located at the centre of the Central Group of the Azores Archipelago. São Jorge is 53 km long and 8 km wide, with a total area of 237,59 km² and a population of 10,500 inhabitants (Source: INE, 2001). The island comprises the municipalities of Calheta, divided into 5 parishes, and Velas, with 6 parishes. It has three towns: Velas, Calheta and Topo.

Water is a liquid odourless substance that appears colourless to the naked eye when in small amounts. It is the main constituent of the human body (70% to 75% of the total weight, varying with age). The legal framework relating to water currently in force includes the following decree-laws: 1) Decree-Law no. 236/98 of 1 August; 2) Decree-Law no. 243/2001 of 5 September; 3) Decree-Law no. 306/2007 of 27 August.

This study intends to compare the quality of water for human consumption, between the Municipality of Lagoa and the Municipality of Velas, respectively located in the Islands of São Miguel and São Jorge, in the Azores Autonomous Region. The objectives are: 1) to know and compare the quality of water for human consumption (through the records made during that period by Municipal Services), in the two Municipalities; 2) to know and describe the different systems of public water supply for human consumption in use at the two Municipalities under study; 3) to determine whether there are external factors (environmental or otherwise) that directly or indirectly influence the quality of the water measured through routine verification quality parameters 1 and 2, in accordance with Decree-Law No. 306/2007.

The study is observational, ecological, longitudinal and retrospective. The subject of this study are the water quality records made monthly and annually during the period of time between 1996 and 2006 in the Municipalities of Lagoa and Velas, respectively located in the Islands of São Miguel and São Jorge, in the Azores Autonomous Region. The study has three components: 1) Knowledge and description of the systems of public water supply for human consumption, in each Municipality; 2) Development of a database of water analysis records made by the respective Municipal Services; 3) Comparison of the quality parameters of the water analysis records. The data are to be processed using the application SPSS v. 14.0 as statistical tool, which will export the data to Microsoft Word, with which the final report will be drafted, including charts and graphs.

TOPIC

FOOD HABITS

"Tell me what you eat ... I'll tell who you are!": The problem of childhood and adolescence obesity

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"Tell me what you eat ... I'll tell who you are!" is a project developed in schools by two nursing students from ESEnfC within the Clinical Training for Integration into Professional Life, held in the period March-June 2008. In order to raise the awareness of the student community of the Infante D. Pedro Elementary School, of the administration of the school and of the families of that community to the great problem of the 21st century - obesity -, the weight and height of the students were measured and the Body Mass Index was determined for the 2nd and 3rd grade students (in a total of 240 students) of said school, in order to identify pre-obesity and obesity cases. Simultaneously, a questionnaire was administered (completed by 137 students) to ascertain their food and physical exercise habits, as well as assess their self-perception of weight.

Objective: This study aims at identifying scores indicative of overweight and obesity, knowing the dietary and physical activity pattern among young people and assessing the self-perception of weight among the students of the Infante D. Pedro Elementary School.

Methodology: The methodology used was case study (240 students), identifying cases of pre-obesity and obesity, through anthropometric assessment and calculation of Body Mass Index (BMI), using the percentages listed in the DGS reference tables. Questionnaires were used to identify dietary and physical activity patterns. As a result, 48 cases of pre-obesity and 25 cases of obesity were identified. With regard to dietary patterns, youths aged 15 and 16 years are the ones who reported consuming the most unhealthy foods. Regarding physical exercise, only one student reported not practising any. In terms of self-perception of weight, boys are the ones who perceive to weigh more than they wanted to.

Knowledge, attitudes and behaviours related to food and approach to diet-related diseases by healthcare professionals

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Introduction: In Portugal, as in other developed countries, the main causes of mortality and morbidity are food-related diseases. Primary healthcare professionals meet a large number of patients with diet-related diseases, in addition to dealing with the population's growing interest in these matters. However, these professionals show some difficulties in dealing with these situations, and the main reasons given are lack of time, knowledge and confidence to do so. The objective of this study was to assess the knowledge on nutrition, the approach to diet-related diseases and the training needs of the family physicians and nurses of the Centre Region of the country.

Methodology: This was a cross-sectional survey administered in 2006 to a representative sample of family physicians and nurses working in 120 Primary Care Centres of the Centre Region. A questionnaire was developed, administered and validated, which allows measuring variables such as those health professionals' level of training and knowledge on nutrition, eating habits and clinical approaches to food-related diseases.

Results: 70% of respondents never received training in nutrition, 58% because they never had the opportunity; among those who received training, 37% reported that it had a great impact on their professional practice and 48% reported that it had some impact; 100% consider it insufficient and wish they could receive more. 50% of professionals reported seeing 5 to 20 patients with health problems related to food every week. They reported not treating these clinical situations for lack of knowledge (23.4%), time (34%) and incentive (20%). 99% consider it is vital that Primary Care Centres adopt new approaches in this field.

Conclusions: These professionals have a great lack of specialised training in nutrition and find it difficult to obtain it. It is critical that Primary Care Centres adopt new intervention strategies in this matter.

TOPIC

GENETICS

INSA – State Laboratory of the Ministry of Health

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Objectives: Although individually rare, on the whole, Rare Diseases affect a significant percentage of the population. Upon the recognition of their impact on the patient, their family and on general society, initiatives naturally emerged in various countries aiming at the prevention, diagnosis and treatment of rare diseases. Portugal has followed the trend led by its European partners and the Directorate-General of Health (DGS) designed the National Plan for Rare Diseases (PNDR) integrated and coordinated with the National Health Plan.

Within the framework of PRACE - Programme for the Restructuring of the State's Central Administration - the Dr. Ricardo Jorge National Health Institute (INSA) was expanded by the integration of other competences in the field of health - namely the Doutor Jacinto Magalhães Medical Genetics Centre (CGMJM) - which is currently the only State Laboratory of the Ministry of Health. This new INSA thus reunites all the conditions

to take up a leading role in the implementation of the PNDR, taking advantage of its inherited potential and creating synergies among its constituent parts: INSA's experience in matters of public health, epidemiology and health observatory, combined with the privileged position of CGMJM in several of its areas of activity.

Methodology and Results: But since its privileged position is not maintained by history alone, in a moment of rapid scientific and technological development, which also affected the field of health sciences, INSA has managed to stay in the forefront in many aspects, such as:

- Ensuring the quality of its work through the certification of its diagnostic laboratories and accreditation of its analytical trials;
- Establishing new technological platforms, using nanotechnology to diagnose treatable rare diseases, prior to the development of irreversible damages;
- Developing a case-by-case analysis methodology for rare diseases, in a perspective of health promotion or disease prevention.
- Promoting its inclusion in international consortia aiming to share data that allow creating sets of cases of significant size and obtain the necessary statistical power to test epidemiologic,

aetiopathogenic and clinical hypotheses for pathologies with such low individual prevalence.

Conclusion: As a producer of data, its databases may come to take on the structure and functions of a national registry, which will allow access - under the appropriate ethical and legal conditions - to decision-makers in matters of health, the scientific community and the pharmaceutical industry.

Among the areas in which CGMJM holds a reference position, highlight goes to hereditary metabolic disorders (HMD). It comprises:

- The National Programme for Early Diagnosis, which performs the neonatal screening of 24 HMDs, essentially affecting the intermediary metabolism;
- The National Coordination Centre for Diagnosis and Treatment of Lysosomal Diseases, which coordinates the diagnosis and treatment of treatable lysosomal diseases, currently 7 of the nearly 40 lysosomal diseases identified.

In terms of public health, HMDs - which are diagnosed at the Biochemical Genetics Unit of the Department of Genetics - stand out for two main reasons: a permanently growing number of identified pathologies, as mechanisms underlying the metabolic pathways are explained, and the gradual emergence of therapeutic approaches.

Lysosomal diseases are one of the groups in which these growths have been evident, and are also an example of the benefits, and even of the need, of the interaction of multidisciplinary teams, both among medical specialities and laboratories. Indeed, the detailed characterisation of clinical evidence observed in different organs may constitute a requirement to achieve a diagnosis, emphasising the need for the training of specialists with a cross-sectional perspective of various medical specialities. The design of the laboratory approach divided into several phases, with subsequent phases determined by the results of the previous - typically involving the detection of marker metabolites, the determination of the molecular activity and the study of encoding genes (if known) - turn the analysis of each patient into a form of research. This exciting and demanding exercise in diagnosis is even more so in the case of atypical scenarios and/or variants, be it from a clinical, biochemical or genetic point of view.

Lastly, it is expected that treatable lysosomal diseases are included in the neonatal disease screening panel ("Guthrie test").

The importance of the early diagnosis of rare diseases

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ABSTRACT

Objectives: On the whole, Rare Diseases affect a significant percentage of the population, with impacts on the patient, their family and on general society. The Dr. Ricardo Jorge National Health Institute (INSA) has been strengthened by the integration of other competences in the field of health - namely the Doutor Jacinto Magalhães Medical Genetics Centre (CGMJM) - and so, gains in public health are expected, as synergies are being created among its several constituent parts.

Methodology: Among the areas in which CGMJM holds a reference position, highlight goes to hereditary metabolic disorders (HMD). It comprises:

- The National Programme for Early Diagnosis, which performs the neonatal screening of 24 HMDs, essentially treatable through restrictive diets;
- National Coordination Centre for Diagnosis and Treatment of Lysosomal Diseases (CNCDTDL), which coordinates the diagnosis and treatment of treatable lysosomal diseases, currently 7 of the nearly 40 lysosomal diseases identified.

Results: In terms of public health, HMDs - which are diagnosed at the Biochemical Genetics Unit of the Department of Genetics - stand out for two main reasons: a permanently growing number of identified pathologies, as mechanisms underlying the metabolic pathways are explained, and the gradual emergence of therapeutic approaches. Lysosomal Diseases are a group of rare diseases in which these growths have been evident.

Indeed, the detailed phenotype characterisation resulting from a detailed clinical observation by affected organs or altered metabolic systems may constitute a requirement to formulate a suspected diagnosis, emphasising the need for the training of specialists with a cross-sectional perspective of various medical specialities.

The design of the laboratory approach divided into several phases, with subsequent phases determined by the results of the previous - typically involving the detection of marker metabolites, the determination of molecular activity and the study of encoding genes (if known) - turn the analysis of each patient into a form of research.

Conclusion: This exciting and demanding exercise in diagnosis is even more so in the case of atypical scenarios, which normally constitute clinical, biochemical or molecular variants of pathologies. For the patient, the development of irreversible lesions, resulting from a late and complex diagnosis, can be stopped, with consequent gains in public health - in terms of the benefit/cost ratio - with an early diagnosis through the screening of treatable diseases.

TOPIC

INFORMATION

Monitoring and Assessment - a tool for management and contracting in Public Health

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Keywords: monitoring; assessment; tool; Public Health

ABSTRACT

The ongoing organisational changes in health services will lead to the budgeting of activities within a very short term. The principle of performance-based funding will gradually be extended to public health services because, as we know, resources are scarce and must be distributed according to needs.

The Department of Public Health (DSP) of ARS North (Regional Health

Administration of the North) and the local public health services will have to demonstrate the effectiveness of their programmes and projects, as well as that of all other activities.

To this aim, the functional area of Monitoring and Assessment (M&A) was created in the Health Planning Unit of DSP and a tool was developed for M&A, which consists of a guidance document - "Reference Terms for M&A in Public Health" and the "Practical User Guide" of said tool, which will be applied to programmes and projects underway at the DSP. The DSP must rely on a minimum set of indicators that contribute to the more effective use of information and resources, ensuring, for example, that indicators are comparable over time, avoiding duplication of efforts. With an integrated M&A system, it will be able to meet the needs on different levels, including programme and project managers, researchers and financiers, eliminating the need for each of these to

repeat baseline or evaluation studies when they can easily use existing information. It is essential that this information is available and in the public domain.

The ultimate goal will be to improve the coverage of quality services for the population, which will require access to updated information on the target population, reinforced services and qualified staff to carry out the activities. In the medium term, it must be ensured that the impact

of behaviour changes is assessed and that the percentage of target groups that will be covered by the services is measured.

Financing services based on their performance helps ensure that the funds are being well spent in relation to the goals of health programmes or projects and that the services are intervening on the identified needs.

TOPIC

MORTALITY

Evolution and geographical distribution of mortality due to Diabetes Mellitus in the period from 1980 to 2006 in Portugal

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ABSTRACT

Objectives: To assess the evolution and geographical distribution of mortality due to Diabetes Mellitus (DM) in Portugal.

Methodology: The information was collected from the mortality databases of Statistics Portugal. The analysis comprised all data relating to deaths due to DM (CID9: 250 and CID 10: E10 to E14), by age group, gender and district. The denominators used to calculate annual mortality rates were the estimated mid-year population and live births for children under 1 year of age. Mortality rates were standardised using the direct method, for all ages and for ages under 65 years. Geographic distribution was analysed by district and by autonomous regions. Potential years of life lost (PYLL) rates were calculated up to 70 years.

Results: In the studied period, there was an increase in the ratio of

deaths due to DM in relation to total deaths, from 1.53 in 1980 to 3.65 in 2006. The standardised mortality rate (SMR) due to DM, in both genders, progressed as follows: in 1980, overall SMR was 15.1 per 100,000 inhabitants, with 15.5 for males and 14.7 for females; in 2006, overall SMR was 21.5 per 100,000 inhabitants, 23.8 for males and 19.6 for females. Repeating the analysis for ages under 65 years, it was found that, in 1980, the overall SMR was 4.8 per 100,000 inhabitants, with 5.6 for males and 4.1 for females; in 2006 the overall SMR was 3.2 per 100,000 inhabitants, 4.1 for males and 2.4 for females, showing a progressive decline. Asymmetries were found among districts in relation to the overall SMR for ages under 65. PYLL rates up to 70 years have remained constant, always higher in males than in females.

Conclusions: During the twenty-seven years analysed, there was an increase in the ratio of deaths due to DM in relation to total deaths. That increase in the ratio of deaths resulted in increased specific mortality rates. Although there was a higher number of female deaths, SMRs due to DM and PYLL rates up to 70 years were higher in males. The geographic distribution of mortality due to DM was not uniform.

TOPIC

OBESITY

MUNSI PROGRAMME - Integrated municipal programme for monitoring and addressing overweight and obesity in primary school children

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ABSTRACT

Introduction: Obesity is one of the most severe public health problems in the European Union, in the twenty-first century. Portugal is one of the countries where overweight and obesity have increased considerably in recent decades, especially among children and adolescents. It is estimated that 24% of children between 3 and 6 years of age are overweight and 7% are obese (Rito A., 2006) and that 32% of children between 7 and 9 years of age are overweight and 11.3% are obese (Padez C. *et al.*, 2004). This problem, with a multifactorial aetiology, is mainly attributed to unbalanced diets associated to lack of physical activity. However, in Portugal, there is scarce accurate information on the actual extent and prevalence of this disease, and so, there is an urgent need for scientific research that produces valid information and helps design policies and programmes that promote better Public Health interventions, especially on the local level.

Objectives: The child health project (MUN-SI) aims at implementing the intervention strategies provided in the Platform against Obesity and assist the Municipalities of Fundão, Montijo, Oeiras, Seixal and Viana do Castelo in the fight against child obesity.

Methodology: The project is divided into three phases (2008 to 2011): assessment of children's nutritional status, relating socioeconomic, demographic and environmental aspects with health; specific multi-

dimensional intervention in the promotion of child health in a school setting, and monitoring and evaluation of the Programme's impact. The sample consists of the 2nd grade students from all the primary schools (170) of the five municipalities involved in the study. The assessment of the nutritional status will be conducted using anthropometric parameters (height and weight), an individual questionnaire for the child and another for the family.

Expected **Results:** Design and implementation of an Integrated Nutrition Surveillance System, integrating socioeconomic, demographic and environmental aspects with the health aspect, which can contribute to decisions for the promotion and incorporation of health in community development activities, particularly related to schools

“PROJECTO OBESIDADE ZERO” (ZERO OBESITY PROJECT) – A municipal programme for health promotion and education for overweight children

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ABSTRACT

Introduction: Current eating habits are characterised by high calorie intake and diets increasingly poorer in whole grains, vegetables and fruits. These dietary habits, combined with an increasingly sedentary lifestyle, contribute to the development of certain chronic-degenerative diseases, such as obesity. In Portugal, about 24% of children at preschool age are overweight, and 7% are obese. In addition, about 32% of children aged between 7 and 9 years are overweight, and 11% are obe-

se. In this sense, community participation stands as a true strategic axis in the fight against this disease. However, there are still too few projects proposing innovative solutions for families with obese children.

Objectives: To develop a health promotion and education intervention programme directed at overweight children aged 6 to 10 years, in a family environment.

Methodology: The program will be developed at a municipal level by five city councils (Melgaço, Mealhada, Cascais, Beja e Faro) and in arti-

culacion with five primary care centres which will forward participating users/families. This project comprises the following development phases: workshops on healthy cooking and comprehensive and motivational food counselling, provided by the Primary Care Centres, both as individual appointments and as group sessions.

Expected Results: Developing skills that can improve knowledge and promote healthier habits in families. Improving the nutritional status of the participating children.

TOPIC

ORAL HEALTH – ASSESSMENT

Comparing indexes to measure dental caries: ICDAS and DMFs

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ABSTRACT

Objectives: The latest system for the visual assessment of caries, ICDAS, allows not only to describe the history of caries, but also their severity. Taking into account the recommendations of the National Programme for the Promotion of Oral Health, as regards the physical examination of the mouth (caries experience), this study aims to compare the conventional DMF index with the ICDAS index.

Methodology: Cross-sectional observational study of all students aged 12 years (born in 1995), enrolled in primary school in the municipality of Almeida, during the period from 03/01/2008 to 29/02/2008. The study was based on the direct observation of the oral cavity according to the ICDAS and DMF criteria, in the 3 possible levels of caries diagnosis (D1, D2 and D3). The statistical analysis was performed using SPSS®v.17.0 (2008).

Results: The sample consisted of 56 subjects, 32 (57.1%) of which were females.

ICDAS is significantly higher than DMF in all the surfaces (Friedman T.; $p < 0.001$). The average ICDAS score, by surface, was 5.61 (CI95%:4.53-6.69) for the occlusal surface, 0.82 (CI95%:0.36-1.28) for the mesial surface, 0.79 (CI95%:0.47-1.10) for the palatal surface, 0.77 (CI95%:0.47-

1.07) for the buccal surface and 0.32 (CI95%:0.13-0.51) for the distal surface. No significant differences were detected only for ICDAS between the buccal and mesial, palatal and mesial or palatal and buccal (for the remaining comparisons, Wilcoxon T., $p < 0.008$)

The average DMF score, by surface, was 1.05 (CI95%:0.62-1.49) for the occlusal surface, 0.23 (CI95%:0.06-0.41) for the mesial surface, 0.21 (CI95%:0.06-0.37) for the buccal surface, 0.13 (CI95%:0.00-0.25) for the palatal surface and 0.13 (CI95%:0.04-0.21) for the distal surface. The occlusal surface shows significantly higher DMF scores than all others (Wilcoxon t., $p < 0.001$ for all comparisons with the occlusal surface), and there were no significant differences among the DMF scores of other surfaces.

The occlusal surface shows the lower number of caries-free surfaces 9.8 ± 3.5 (4-16) (average \pm DP (minimum-maximum)), the greater number of caries in non-cavitated enamel (D1), 4.21 ± 3.25 (0-12), as well as in cavitated enamel (D2), 0.34 ± 0.72 (0-3). No significant differences were detected in the number of dentine caries (D3) by surface. Twenty-nine (51.8%) children had all tooth surfaces free of caries, whereas according to ICDAS, only 4 (7.1%) had a zero score for all surfaces.

Conclusions: The ICDAS index is even more sensitive than DMF in the characterisation of caries.

Anticipating an increasing use of ICDAS for the assessment of caries, the knowledge of the expected differences between the two indicators analysed will allow for a valid prospective analysis of the evolution of the oral health status of individuals over time, even using different indicators.

TOPIC

ORAL HEALTH – INTERVENTION

Effects of public health strategies on Dental Caries in Portugal

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ABSTRACT

Objectives: To analyse and compare the impact of public health practices on the prevalence rates of dental caries in children and young people in Portugal.

Methodology: The data were collected from the results of studies (five Nationwide studies) on dental caries in children in Portugal, conducted in the period from 1983 (Almeida *et al.*, 1990/1991) to 2006 (DGS, 2008), which used the DMFT index as a measuring instrument.

Results: The percentage of caries-free children at the age of 12 nearly tripled in 23 years, going from 15% in 1983 to 44% in 2006. The percentage of caries-free children at the age of 6 increased by 18% between 1999 (DGS; 33%) and 2006 (51%). The percentage of children with dental fissure sealants at the age of 12 increased from 1.7% in 1990 to 14.4% in 1999

(INE) and reached 38% in 2006. The DMFT index decreased from 3.8 in 1983 to 1.48 in 2006, which is below the target set by the WHO for the European Region by 2020 (< 1.5). Over the past 23 years, the number of children aged 6 years who attended dental appointments in the last year has quintupled, going from 7% in 1983 to 37.2% in 2006. At the age of 12, the percentage of youths who reported having attended appointments in the last year rose by 36% in 23 years, going from 49% in 1983 to 85.2% in 2006. In 23 years, the number of youths aged 12 who claim to brush their teeth every day doubled, from 43% in 1983 to 89% in 2006. At the age of 6, 31.0% claim to brush their teeth 2 or more times per day in 1999 (INE), while in 2006, 50% say they do so. In seven years, there was a 19% increase. The analysis of secondary data reveals an improvement in the oral health of the Portuguese in the last 23 years.

Conclusions: The strategies adopted in Oral Health Programmes appear to be yielding results, as oral health gains have been obtained. However, there is a pressing need for new studies that can provide valid information in terms of different geographical areas, so that we may continue to monitor trends in the oral health status of Portuguese children and youths.

Community Intervention in the Promotion of Oral Health in 2 School Groups

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E-mail: julyannandrea@hotmail.com**ABSTRACT****Objectives:** Considering that the prevalence and incidence rates of Dental Caries in Portugal, although declining in recent years, are still far from achieving the desirable levels, it becomes necessary and essential to invest in the promotion of Oral Health.

Based on the characteristics of the school environment, it is advocated that the school is a place with potential for the development of programmes that intend to disseminate knowledge on oral hygiene care and prevention of oral diseases.

This study intended to compare the immediate results of an Oral Health promotion initiative conducted in 2 school groups with different urbanity characteristics.

Methodology: A community intervention study was developed, which involved administering a questionnaire to 235 children of the school groups of Condeixa a Nova and Castelo da Maia, aiming to assess knowledge and behaviours related to Oral Health and Dental Caries.

An Oral Health Promotion Session was held, using audiovisual media. After a 45-day interval, the questionnaire was re-administered to measure changes in the knowledge and behaviours related to Oral Health and Dental Caries.

Results were analysed using SPSS© version 15.0 (2006).

Results: Some significant differences were found between the assessments made before and after the Oral Health Promotion session. As an example, to the question "What should I use to brush my teeth?" it was found that, of the 7 children initially classified as having poor oral hygiene, only 2 remained in that category; on the other hand, 44 children who, before the session, said they had a reasonable oral hygiene, about half (n=19) were now included in the group of good oral hygiene. To the question "After brushing my teeth should I rinse with water or not?" 60 children correctly answered "no rinse", against only 3 in the pre-session assessment.**Conclusion:** Despite the limitations of community health promotion trials, this intervention proved effective in improving the knowledge of the studied population.

The acquisition of new knowledge and consequent change in behaviour may promote health gains for children. The school environment, with all its characteristics, seems a valid venue for the development of synergies in education, motivation and skill building in oral health self-care.

TOPIC

ORAL HEALTH – RESEARCH**Epidemiological characterisation of the implications of asthma in children's oral health**

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Keywords: epidemiology, asthma, oral health, children

ABSTRACT

Several studies have shown an increased risk of oral pathologies in asthmatic children, although no consensus has been reached on this issue. The objectives of this study were based on the characterisation of the oral health of children with asthma, inherent evidence and possible clinical and Public Health implications.

The sample consisted of 107 asthmatic children aged 5 to 12 years, who met the criteria for inclusion. Observations and records were made at the Paediatric Hospital of Coimbra and in the Department of Dentistry, after an ethical review and according to WHO criteria for the assessment of dental caries, periodontal changes, determining of the total stimulated saliva flow, buffer capacity and salivary concentration of *S. mutans* e *Lactobacillus*; the examination also included social, behavioural and dietary factors. Intra-observer calibration and prevention of cross-infection were safeguarded. The statistical treatment of the data comprised a descriptive component and correlation analyses (Student's t test and χ^2), with a confidence interval of 95% and a level of statistical significance of $p \leq 0.05$.The prevalence of caries in deciduous teeth was 57.6% and in permanent teeth 36.3%; the dmft index at 6 years was 2.33 (mt=3.94) and at 12 years it was 1.63 (mt=2.39). At 6 years of age, DMFT was 0.50 (MT=1.41) and at 12 years it was 2.00 (MT=2.77). There was also presence of calculus, gingivitis, enamel hypomineralisation, reduction of the total stimulated salivary flow, of the salivary buffering capacity and of the salivary concentration of *S. mutans* and *Lactobacillus* over 105 CFU/ml. A large number of children had no brushing habits or they only brushed once a day. Statistically significant associations ($p \leq 0.05$): salivary buffering capacity and total stimulated salivary flow; salivary buffering capacity and salivary concentration of *S. mutans* and *Lactobacillus* and of the

latter with dmft/DMFT indices; education of the mother and these indices; previous systemic administration of fluorides and DMFT index. The need remains for the conduction of longitudinal studies with more representative samples, where the Dentist plays an essential role in the adoption of preventive measures.

Impact of playing wind musical instruments on oral health

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E-mail: mgeorgete@hotmail.com**ABSTRACT****Objectives:** Wind musical instruments are gaining increasing popularity. Amateur or professional music careers currently tend to begin at younger ages, and young players require monitoring and counselling by health professionals with knowledge of orofacial structures who can intervene at early stages and prevent more serious injuries. These injuries can be understood as a mild discomfort or, in severe cases, prove to be permanently disabling, preventing the pursuance of the musical career.

This work aims to show how the various types of wind instruments cause impacts on orofacial structures in order to help understand the consequences. It also aims to identify the most common injuries affecting wind instrumentalists in order to contribute to their diagnosis, prevention and treatment, as well as to propose an action protocol for this group of patients.

Methodology: A literature review was conducted in May 2008, using as a database PubMed, Scielo, B-on and Lilacs, and a manual search was also conducted in specific libraries of music schools and scientific associations in the musical field, with the search terms "Performing arts medicine", "Health problems in musicians", "Health problems in instrument players", "Orofacial problems in musicians".**Results:** 68 publications were found which associated several health problems with the playing of musical instruments.

In terms of oral health, orthodontic problems, soft tissue trauma, focal dystonia, tooth retention, herpes labialis, dryness of mucous membra-

nes and temporomandibular disorders have been identified as occupational orofacial problems associated to the careers of wind instruments players. The options available for prevention and treatment, as well as for the selection of instruments, in order to overcome these problems, are explained.

Conclusions: Professional musicians show reluctance towards dentists with insufficient knowledge of their problems. Dentists who understand how the playing of instruments impacts orofacial structures and who are aware of the potential problems affecting musicians are able to offer preventive advice and supportive treatment to these patients and may reduce the impact or prevent more serious injuries.

The use of xylitol from a public health perspective

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ABSTRACT

Non-cariogenic sugar substitutes are widely used in medicines, food and candy, including chewing gum, gum and beverages. Sorbitol, xylitol, saccharin, aspartame, sucralose and acesulfame-K are the most common commercially available substitutes.

The objectives of this study are to provide information on the dynamics of xylitol and disseminate its potential when used from a Public Health perspective.

The scientific methodology used involved a systematic review based on the following medical subject headings: xylitol, dental caries.

It is known that the use of these sugar substitutes can contribute to reduce the prevalence of dental caries. Recent studies have investigated the potential use of non-cariogenic sugar substitutes in chewing gum and beverages to promote the remineralisation of early carious lesions. The anti-cariogenic effect of the sugar substitutes themselves has not yet been proven by scientific evidence. However, the increase in salivary flow when chewing gum may have an effect in the prevention of dental caries.

FDI has recently issued the following considerations:

- Some sugar substitutes are non-cariogenic;
- When they are used in food as a replacement of sugar, they can lead to a reduction in the risk of tooth caries.

According to the literature, xylitol has numerous benefits for oral health, such as increasing the pH of the oral environment and the reduction of the number of microorganisms present in the dental plaque, especially when combined with fluorides. With regard to public health, and due to the fact that it is inseparable from oral health, the use of non-cariogenic sugar substitutes may be indicated for use with diabe-

tic patients, children, pregnant women, elderly, special patients, weight loss or maintenance diets, patients with xerostomia, be it physiological or associated to any systemic pathology/therapy, among others.

It is therefore concluded that the many advantages of this non-cariogenic sugar substitute are underutilised, perhaps because it is little known, which means that there is some lack of knowledge on its true potential. Nevertheless, xylitol is considered clinically safe and can constitute a valid strategy for public oral health.

Oral care for people with physical limitations - training needs

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ABSTRACT

Oral hygiene is the main salutogenic factor affecting the oral cavity. For this reason, almost all diseases affecting the oral cavity can be fought through correct and effective hygiene.

The human dental plaque is composed of a complex biofilm, where several microbial species are organised in a matrix of variable chemical and microbiological composition. The main function of oral hygiene is the removal of oral biofilm from the surface of teeth and it must be adopted as a daily habit since the eruption of the first tooth in infants. Performing proper oral hygiene requires the knowledge and effective use of complementary hygiene techniques and correct procedures.

Nevertheless, the oral hygiene of the elderly and of persons with physical limitations is often neglected, even though it is vital to prevent oral diseases.

Persons with disabilities and some elderly people who are under the care of others require special care in order to properly maintain their oral hygiene.

Health professionals and the technicians and assistants who collaborate with them have a key role in educating and monitoring these cases.

Therefore, all health professionals must be aware of this and must motivate and educate their patients, their families and caregivers on the correct selection of techniques and procedures, and on the use of complementary methods, and also answer the most common questions about oral hygiene.

This study intends to provide a simple clarification on the constitution of the oral biofilm, the consequences of its non-removal, the procedures and techniques to be performed and the materials to be used, taking into account whether hygiene is performed by the person, albeit with limitations, or by a caregiver.

TOPIC

PRACTICE

Food poisoning by *Salmonella Enteritidis*: epidemiological investigation at two wedding receptions in the district of Viana do Castelo, August 2008

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ABSTRACT

Justification: Collective Food Toxi-Infection (CFTI) are still an important Public Health problem. Epidemiological surveillance has revealed an increase in its incidence, hence the importance for Public Health of the development of surveillance and control programs to effectively address these situations.

Since 2002, 19 collective food toxi-infection outbreaks were reported in the district of Viana do Castelo. In 2008, two outbreaks occurred at two

wedding receptions, held on 15 and 16 August and catered by the same company in the municipality of Ponte de Lima.

Objectives: The investigation conducted on these outbreaks focused on identifying the agents and sources of infection, aiming at the implementation of prevention and control measures.

For both wedding receptions, a descriptive, analytical, case-control type study was conducted, with application of a questionnaire to both infected and not-infected guests, in order to identify the food items that caused the outbreak (causative agent). The environmental investigation included hygiene and sanitary inspections to the premises of the restaurant responsible for the catering service and the locations where meals were served. For the laboratory investigation, samples of the food were collected, as well as of the water and biological products of infected guests and food handlers.

Results: The descriptive epidemiological analysis (epidemic curve,

symptoms, median incubation period, average incubation period) suggested that *Salmonella* was the most likely etiologic agent in both-toxi-infections.

In the analytical study, attack rates were calculated for each food item, and the same suspect was identified in both receptions: cod with onions (Odds ratio ∞).

The environmental research showed that the cod had been soaked in water from a private well which was not suitable for consumption. Homegrown eggs were used to cook the meals.

The hypothesis formulated during the epidemiological investigation was confirmed by a laboratory identification of the agent *Salmonella* Enteritidis phage type 1b in the cod, which was served at both receptions, and in the biological products of persons infected at both receptions.

Conclusions: The fact that the *Salmonella* Enteritidis isolated in the food item "cod" was of the same phage type (phage type 1b) as the *Salmonella* Enteritidis identified in the organic products of the infected persons confirmed the causal association between the consumption of the food item "cod" and the onset of the disease.

This investigation concluded that the food item "cod" served by the catering company at the two wedding receptions, on 15 and 16 August 2008, was responsible for both toxi-infections.

The Association for the Promotion and Protection of Health of the Azores (APPSA)

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ABSTRACT

Introduction: The Association for the Promotion and Protection of Health of the Azores (APPSA) was founded on 26/12/2008.

Objective: The aim of this communication is to disseminate information about APPSA.

Methodology: APPSA, through cooperation with the relevant governmental services and private institutions, has the following goals: the

Promotion of Health, Public Health and Community Health; the promotion of integrated practices for Health, Public Health, and Community Health activities; issuing recommendations on its planning, training and practices, as well as assisting in the drafting and passing of legislation and regulations relating thereto and influencing compliance; promoting debate and taking positions on Health issues and policies; promoting and stimulating research, technical and scientific training and professional development, aiming to improve the Azores' Health indicators; promoting and periodically hosting a Health Congress in the Azores. APPSA's board is composed of elected members and four representatives of the Azorean society - 2 from the Regional Health Secretariat, 1 from the Association of Municipalities (AMRAA) and 1 from businessmen associations.

Results: The founding members of APPSA are councillors, biologists, nurses, students, pharmacists, business managers, lawyers, Family Medicine, Occupational Medicine, Public Health and Hospital physicians, veterinarians, nutritionists, priests, secondary school and university teachers, psychologists, Clinical Analysis, Public Health, Environmental Health and Social Service technicians. It currently has over 50 members, from all the islands of the Azores. APPSA is structured into specialised committees, as follows: Health Administration and Management; Drugs and Drug Addiction; Emergency and Disaster; Pharmacy and Medicines; Food Hygiene and Safety; Information, Communication and Education for Health; Blood, Oncology and Transplants; Environmental Health; Occupational Health; Sexual and Reproductive Health and Family Planning; Tuberculosis and Emerging Diseases.

Conclusions: APPSA submitted proposals to the Regional Government of Azores for Healthy Lifestyle and Occupational Health Programmes and for the creation of the Regional Health Observatory; it proposed to AMRAA that two municipalities applied to the Portuguese Network of Healthy Cities (currently concluded) and proposed the daily broadcasting of "1 minutosaudável" (1 healthy minute) in a regional radio station and before a regional news broadcast; in 2009, it will be holding the 1st Regional Conference on Health Promotion (Ponta Delgada, 7 April), the "Autarquias e Saúde" (Town Councils and Health) Conference (Furnas, 19 June), the "EnvelhecimentoAtivo" (Active Ageing) Conference (Flores, 3 September) and the "Feira da Saúde" (Health Fair) (Lagoa, September).

TOPIC

SCHOOL HEALTH

Health among 9th Grade Students. Comparison among students enrolled in vocational education courses and general education of the Basic and Secondary School of Macedo de Cavaleiros

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Keywords: students, health, school performance, risk behaviours

ABSTRACT

Objectives: This study aimed at determining how family environment and lifestyle affect the health status, risk behaviours and school performances of the individuals that comprised two samples of students of the 9th grade, one of vocational courses and other of general education attending the same school.

Methodology: The sample used comprised 100 9th grade students from the Basic and Secondary School of Macedo de Cavaleiros, consisting of two classes of vocational education and two regular classes, chosen at random.

Two questionnaires were prepared and administered to all students. One of the questionnaires (clinical) was answered in the presence of a physician and a nurse and included both subjective data (complaints, previous medical history, family history, habits, etc.) and objective data

(physical examination, body mass index, blood pressure, oral health, visual screening, tympanogram). The second questionnaire was completed anonymously by participants and it included questions on life habits, household, socioeconomic status, leisure activities, food habits, risk behaviours, individual health assessment, school performance.

The statistical treatment of the data collected was performed using Microsoft Excel®.

Results and Conclusions: The results obtained for the set of two samples (students in vocational education and general education) are generally consistent with those obtained in previous studies for the same age group.

The answers to the clinical and anonymous questionnaires revealed high levels of reproducibility in repeated answers.

There is a positive correlation between the answers given to questions associated with lifestyle and family environment and those associated with health status and risk behaviours.

A significant difference was found between general education students and vocational education students when comparing answers to the questionnaires, both in parameters associated with lifestyle and economic situation, and those associated with health status and risk behaviours.

Statistically significant differences were also found between answers given by boys and girls for variables associated to lifestyle and risk behaviours.

The two studied samples (vocational education and general education) are statistically different in terms of lifestyle, economic situation, family environment, health status, school performance and risk behaviours; however, in order to make an extrapolation to a broader population, the study must be extended to other schools, in order to verify whether the observed differences are local or correspond to the difference existing in the global populations attending the two types of education. The reasons that led to choosing general or vocational education should also be further investigated. This study can contribute to improve our knowledge of young people and enhance health promotion strategies.

Food Hygiene in Kindergartens - The Public System

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Keywords: hygiene, food, Kindergarten

ABSTRACT

The main objective of this study was to evaluate the general conditions of food hygiene, the food handlers' level of knowledge on food hygiene and safety and the way these have influenced the quality of the food served in the canteens where the study was conducted. The population of the study was composed by 10 canteens of public Kindergartens, grouped by 4 parishes of the Municipality of Lousã and the respective food handlers (n=28). The sampling type and technique were, respectively, non-probabilistic and convenience. This was a level II descriptive-correlational cross-sectional cohort study. The data were collected using the following instruments: observation grids (Non-Participant Observation), surveys (self-administered) and Analytical Bulletins. The data were processed using the specialised software Statistical Package for Social Sciences (SPSS) v. 16.0 for Windows. The data collected were analysed using simple descriptive statistics (Location and dispersion measures) and assumptions were tested for the type of statistics to apply. The following tests were used: Kruskal Wallis and Spearman's Rho. The interpretation of statistical tests was based on a significance level of $\alpha=0.05\%$ (95% CI). The results obtained generally indicated the following: the general hygiene conditions in canteens were between 84% and 90%; the level of knowledge of the respective food handlers was between 89% and 95%; of the total food analysed, 87% scored a Satisfactory level and only 3% were Unsatisfactory; of the total utensils analysed, 83% scored a Satisfactory level and only 17% were Unsatisfactory; microbiological parameters, responsible for Unsatisfactory scores were Microorganisms and Coliforms at 30°C. It can be concluded that younger individuals (age) showed a higher level of knowledge on hygiene and safety in the handling of food, when compared to older food handlers. It can be said that, depending on the food handlers' level of knowledge on hygiene and food safety, this variable positively influences the application of best practices in food safety.

Regional Programme for Sex Education in School Health: a pilot project

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ABSTRACT

The Department of Public Health of the Regional Health Authority of the North, P.I., in cooperation with the Regional Directorate for Education of the North, created a multidisciplinary working group (gt-PRESSE) tasked with designing, implementing, monitoring and evaluating a Regional Programme for Sexual Education in School Health (PRESSE - Programa Regional de Educação Sexual em Saúde Escolar).

Objective: PRESSE's general objective is to: provide sexual education for students of the 2nd cycle of basic education of the Northern Re-

gion in a structured and sustainable manner, so as to increase their knowledge and provide them with the right competences and attitudes towards sexuality. Thus, a pilot project was planned to begin in the school year 2008/2009, intended for students of the 5th grade. To this end, the following activities were developed: publicising the program in schools and among school health teams; providing training for the professionals of school health teams and health education coordinators, administered by gt-PRESSE; training teachers of non-curricular subjects, conducted by PRESSE teams (e-PRESSE); administration of questionnaires to students; intervention with students, developed by teachers, in the 2nd and 3rd terms of the current school year; and monitoring and evaluation of the programme.

Methodology: The methodology for this pilot project involved selecting 22 schools with the 2nd cycle of basic education in the Northern Region, according to the following criteria: 1) one school by group of primary care centres, except in the cases of groups of primary care centres which are exclusively part of municipalities that were transferred from ARS Centre to ARS North; 2) schools which, due to their characteristics, gathered the best conditions for the implementation of the pilot project. The implementation of the project ensued, in three phases: Phase 1 (May to June 2008): training of the professionals of school health teams and health education coordinators of selected schools; Phase 2 (September to December 2008): training for the teachers of non-curricular subjects; and Phase 3 (January to June 2009): training of 5th grade students, by teachers of non-curricular subjects who received the training. The evaluation of the various phases of the project is carried out by applying pre- and post-intervention questionnaires. Currently, in addition to the development of the pilot project, there is a plan to progressively extend PRESSE to more schools in the Northern region, and applications have opened for the school year 2009/2010. The "Health and Education" commitment, in its local implementation, is a requirement for access.

"Amigos coloridos" Friends with benefits: responsible sexuality

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ABSTRACT

"Amigos Coloridos" (Friends with Benefits) is a project implemented in schools, whose methodology uses Peer Education, which was planned, promoted and evaluated by two peer educators (students of Nursing at ESEnFC, within the field of Clinical Teaching for Integration into Professional Life), trying to demystify false beliefs related to responsible sexuality among the students of a Technology and Vocational School. Firstly, a diagnosis of the situation was obtained through the application of a questionnaire to identify behaviours, knowledge and attitudes in terms of responsible sexuality, and the pertinence of the intervention was verified. Thus, a few interactive/dynamic educational sessions and their subsequent evaluation were conducted with 2 classes of that Technological and Vocational School of Penela, in the period March-June 2008. Also underlying is Freire's awareness education concept, which argues that education is part of the student's experience and perception. Thus, the core values of the project consist of respect for oneself and for others, informed decision-making and self-accountability.

Objective: The objective of this study was to measure the increase of knowledge on the topic of responsible sexuality in a Technological and Vocational School using peer education.

Methodology: Case study (26 students of the 10th and 11th grades of a Technological and Vocational School), with a questionnaire to test knowledge.

Results: Results were quite positive, with an average percentage of 83% for knowledge on responsible sexuality and, when divided by areas, a 79% percentage was obtained regarding general knowledge on sexuality, 82% on pregnancy prevention and 83% on STI prevention. Comparing these scores with those obtained in the diagnostic survey, an increase in the knowledge on responsible sexuality is evident.

Building a Health-Promoting School

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School is a community resource and is recognised as health promoter by excellence. The concept of Health-Promoting School emerged from the idea that school has unique characteristics that can be optimised through well-planned health promotion. However, the concept of Health-Promoting School does not happen by itself, it needs to be put into practice.

In order to get to know the perspective of students, parents, teachers and health professionals on their role in the operationalisation of the concept of Health-Promoting School, in a given school, the following goals were defined: to identify the meaning of health promotion for each of the parties involved; to identify the positive factors and difficulties experienced by each party in the operationalisation of a project for the promotion of health and the role assigned to the different stakeholders. The approach selected was qualitative, using the focus group technique.

According to participants, for an effective and sustained promotion of health in school, health promotion projects must be launched by the educational community, which, in turn, must be supported by the school board. Positive factors indicated included student engagement, access to information and the establishment of partnerships within the community. The difficulties referred included lack of involvement of students, teachers and parents/guardians, ineffective communication, obstacles raised by the school management and specific teacher training. The stakeholders clearly defined the role of who should be involved and point out that "a nurse must be on call at school", claiming greater presence and closer connection with healthcare services.

Effective channels of communication, a transdisciplinary approach and the involvement of all members of the community are referred, in this context, as decisive factors for the operationalisation of the health promotion project. This study also suggested that the lack of opportunities to share accounts of experiences in this field, within and between schools, hinders the establishment of a Health-Promoting School.

"Amigos amigos, pressões à parte" Don't mix friendship with pressure: Intervention project in Peer Education in a school context

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"Amigos Amigos Pressões À Parte" (Don't mix friendship with pressure) is a Peer Education project in a school context, designed, developed and implemented by 21 peer educators (Nursing students at ESEnFC), whose goal is to increase the capacity of 10th grade students to resist peer pressure in risk situations (eating disorders, unprotected sex, smoking, alcoholism and consumption of illegal drugs). Two nursing students have developed 9 interactive education sessions and respective evaluation, for each of the 13 classes of two secondary schools in Coimbra, in the period from February to June 2008 (266 hours in the classroom). The underlying values are respect for oneself and others, informed decision-making and self-accountability, based on Freire's dialogic approaches.

Objective: To describe the acceptability of a peer education project in a classroom context in two secondary schools of Coimbra.

Methodology: Case study (301 10th grade students from two schools of Coimbra), with the administration of questionnaires to evaluate the satisfaction, perceptions and experiences of young people in relation to this model of education. Likert-type and open questions.

Results: This health promotion model was received with great satisfaction by students, who considered it more suitable than the sessions held by health professionals. Quality 8.02 ± 1.31 , pertinence 8.43 ± 1.43 , usefulness 8.34 ± 1.47 , interest 8.28 ± 1.43 and fun 7.98 ± 1.63 (in a 1-10 scale).

TOPIC

SERVICES

Quality of Public Health Laboratories in the North

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Introduction: Currently, the concept of quality in Public Health Services is essential, as society is more demanding in relation to the services they provide and the professionals working there strive to perform their duties in a more rigorous and responsible manner. It is essential that laboratories have access to objective means, in order to demonstrate, through validation, that the trial methods they follow lead to credible results, suitable for the intended level of quality.

Materials and Methods: The Public Health Laboratories of Northern Portugal (Bragança, Vila Real, Braga and Viana do Castelo), which directly depend on the Department of Public Health of the North - Regional Health Administration of the North, have promoted the implementation of a Quality Management System. The Certification of said Laboratories is based on Standard ISO 9001:2000 and the proposal for the Accreditation of methods for the chemical analysis of water is based on Standard EN ISO/IEC 17025.

Conclusion: The functionality of the Quality Management System allowed the Certification of said Laboratories according to Standard

ISO 9001:2000 in June 2006 and led to the creation of conditions for the Accreditation of methods for the chemical analysis of water in accordance with Standard EN ISO/IEC 17025, obtained in December 2007.

Decision Support System in the Management of the Clinical Analysis Execution Procedure

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At a time of scarce resources, both human and material, the decision-making process in the management of these resources becomes critical, not only concerning the time for the completion of the product or service, but also in terms of its more efficient and cost-effective execution, through a better use of both human and material resources. This is a complex activity, which is the responsibility of the players involved in its management and in which time is critical and resources are scarce. It was this context that led to the launching of the project described herein, which is the result of a partnership between the Jacinto Magalhães Medical Genetics Centre (CGMJM) and the School of Engineering of the Polytechnic Institute of Porto (ISEP), more specifically the Department

of Computer Engineering, the purpose of which is to allow Bachelor's and Master's degree students to work on the implementation of IT solutions for CGMJM as their final Thesis or Project.

This project involves three main components, corresponding to three master's theses. The projects are the following:

- A system for the management of biological samples, which aims to obtain management solutions for the analytical execution which minimise the result output waiting time;
- A management system for the analytical execution of the study of a user based on their clinical presentation;
- A decision support system that allows obtaining the best solution for the allocation of human resources to analytical tasks.

The goal is to optimise the management of the placement/replacement of human resources within a given critical period of time in order to allow taking maximum advantage of the analytical execution.

All the project's components are also supported by GECAD [Grupo de InvestigaçãomEngenharia do Conhecimento e Apoio à Decisão] - Knowledge and Decision Support in Engineering Research Group, through its researchers, who are also teachers at ISEP. GECAD is an accredited R&D unit funded by FCT based at ISEP, Polytechnic Institute of Porto. It is dedicated to the promotion and development of scientific research in the field of Artificial Intelligence, Knowledge-Based Systems and Decision Support Systems.

Upon the completion of the project, the software application prototypes being developed, based on Decision Support Techniques and inspired on Artificial Intelligence are expected to provide their users (managers) a better and more effective use of resources, simultaneously promoting higher service quality.

The influence of the management of the number of nurses in results observed in patients

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ABSTRACT

Objective: The purpose of this study is to analyse how increased efficiency in the management of healthcare human resources, namely hospital nurses, can improve the quality of the care provided. More specifically, the study intends to investigate whether there is a correlation

between the management of nursing work and the outcomes of some patients admitted into two services of the X District Hospital (Internal Medicine services).

Design: It is an epidemiological study.

Participants: The population and the study sample consist of all patients admitted to the selected services (Internal Medicine) during the observation periods set.

Intervention: In order to assess the impact of independent variables on dependent variables, a Pearson correlation and linearity statistical analysis is conducted.

Main Definitions: In the present study, the following nursing work management indicators shall be considered independent variables:

- Nursing Care Hours Needed (NCHN);
- Nursing Care Hours Provided (NCHP);
- Variation between Nursing Care Hours Provided and Nursing Care Hours Needed (VAR);
- Nursing Care Utilisation Rate (NCUR);
- The system used was the Nursing Patient Classification System, developed by IGIF and currently implemented in 42 Portuguese hospitals.
- The following outcomes observed in patients during admissions in the services indicated above shall be considered dependent variables:
 - In-hospital Mortality Rates;
 - Total Days in Hospital;
 - Average Admission Time.

Results: The results suggest a correlation between the nursing work management variables and the outcomes observed in patients. Thus, it was concluded that the worst outcomes observed in patients (higher in-hospital mortality rates and longer average admission times) are correlated with:

- Higher levels of patient dependency on nursing care;
- The largest gaps between the needs and the care actually provided;
- The inefficient management of nursing work;
- The greatest lacks of nurses in services.

Conclusion: A management of the nursing work that is based on care needs, through tools like the Nursing Patient Classification System, may result in a more efficient care provision and fewer adverse outcomes observed in patients.

TOPIC

TOBACCO

Assessment of tobacco use among students of 3rd cycle schools in the Northern region

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ABSTRACT

Objective: The aim of this study is to assess and characterise tobacco consumption among students of the 7th and 9th grade, in schools with the 3rd cycle of basic education which have implemented the "ProgramaEscolas Livres de Tabaco" (PELT) (Tobacco-free Schools Programme), in the school year 2006/2007.

Methodology: Cross-sectional quantitative study, involving the application of a self-administered structured survey (adapted from the Adolescent Health in School Survey [Inquérito de Saúde dos Adolescentes na Escola]), to a systematic random sample of students of the 7th and 9th grades, between October 2006 and July 2007.

Results: The sample comprised 2637 individuals (1824 individuals of the 7th grade and 813 individuals of the 9th grade. Of the descriptive analysis by grade: In 7th grade, 50.1% of students are males, 4.4% cur-

rently smoke, 13.7% had smoked before and 81.9% had never smoked; Of smokers, 23.3% smoke daily; 25% of students who smoke/have smoked, tried their 1st cigarette as early as age 10; 61.6% of students reported that no one else smokes in their home; 17.7% state that they are likely to smoke; 14.2% reported that most/all of their friends smoke; In 9th grade: 50.3% of students are males, 15% currently smoke, 27.7% had smoked before and 57.3% had never smoked; Of smokers, 49.2% smoke daily; 25% of students who smoke/have smoked, tried their 1st cigarette as early as age 10; 64.9% of students reported that no one else smokes in their home; 22.3% state that they are likely to smoke; 54.8% reported that most/all of their friends smoke.

Conclusions: From 7th grade to 9th grade: the prevalence of current tobacco use nearly quadruples; daily users double; most students do not live with other smokers at home; the expectation of becoming a smoker doubles and the perception of having friends who are all smokers increases 7 times.

The effects of an anti-smoking Internet-based psychological inoculation intervention among Portuguese youths: a feasibility study

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ABSTRACT

Introduction: Smoking is the main preventable cause of premature death. Educational messages alone might not provide the necessary skills to change smoking behaviours. Psychological inoculation (PI) is a method that teaches people to refute social and internal pressures to smoke and it has been considered very effective among teenagers. Despite the proliferation of e-health interventions, there is little research on their impact in Portugal.

Objective: The aim of this study was to conduct a preliminary assessment of the feasibility and effectiveness of Internet-based PI interventions on tobacco barriers and cessation among Portuguese youths.

Methodology: Participants were enrolled in an online randomised controlled trial, in two groups, conducted between 21 July and 21 August 2008. The control group had access to educational information. The experimental group had access to a PI session via "chat room". The assessment focused on the number of cigarettes smoked daily, nicotine addiction and the perception of barriers to quitting.

Results: A total of 146 participants registered in the study's website. After 2 weeks of follow-up, 67% of the group that received educational information reported a reduction of 1 to 9 cigarettes per day, while 40% of the PI group reported a reduction of 1 to 3 cigarettes. Smokers with higher levels of nicotine addiction identified more barriers to cessation and seem to have benefited from the information on the website. Five percent of the sample quit smoking.

Conclusions: Although the preliminary results were not statistically significant, the administration of PI via Internet chat rooms is feasible. However, a more extensive trial and a longer follow-up will be necessary to test the efficacy of Internet-based PI. An easy-access online smoking cessation service, with information based on evidence and PI via chat room could be framed into the Portuguese smoking control strategy, helping young people quit smoking.

The ARS North Smoking Prevention and Treatment Programme - "PPTT (Programa de Prevenção e Tratamento do Tabagismo)"

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ABSTRACT

General Objectives: 1. To build a qualified network for the prevention and treatment of smoking, accessible to all users. 2. To qualify health professionals to: prevent tobacco use and exposure to ETS; promote and support smoking cessation; 3. To contribute to reduce the prevalence of the use of tobacco products among professionals of the groups of the social model, namely health professionals; 4. To promote and monitor the adoption of tobacco-free workplaces; 5. To develop an integrated network of community programmes/projects to prevent the onset of consumption, promote tobacco-free spaces and control tobacco consumption.

The strategies for achieving the specific goals of the Programme are embodied in programmes, sub-programmes and projects to be undertaken by the health services of ARS North in four areas of intervention. Clinical Area; Community Area; Training, Information and Communication, and Health Professionals

Results in 2008 - Training of 1202 professionals to develop the underlying programmes; preparation and follow-up of 88 Consultations for Intensive Support to Smoking Cessation; In-service training on Brief Intervention techniques in 48% of Primary Care Centres; Tobacco-Free Schools Programme in 98 schools of the 3rd cycle of basic education. 100% SemFumo (100% Smokeless) Programme, implemented by 650 catering and drinking establishments

Discussion: Positive factors that led to the results: a full-time executive coordination team comprising three distinguished professionals in the field; deployment of special teams in some Health Sub-regions, responsible for implementing the programmes; structuring of a network team covering the newly-formed health region, which will be responsible for streamlining the programmes.

Vulnerabilities: Decreasing resources for executive coordination; Instability arising from the announcement of the closing of Sub-regions and opening of ACES (Groups of Primary Care Centres); mobility of professionals migrating to USFs (Family Health Care Units) and of those with precarious employment situations; delay in the approval of additional funds for consultations in USFs; suspension of training.

Challenge for 2009: To promote the adoption of PPTT and its various sub-programmes and projects with sufficient human resources in the 24 ACES and 2 ULSs (Local Health Units).

TOPIC

TRAINING

Structural aspects in occupational health: the new report on the activities of occupational safety, hygiene and health services

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ABSTRACT:

First published in 2002, accompanied by some controversy, the model for the annual report on the activities of occupational safety, hygiene and health services was recently changed.

Although it was designed to monitor and support the intervention of health services in companies, it soon became evident that the information generated by this instrument could be an excellent tool for decision support for the various levels of intervention of the governing bodies involved and a management tool for the companies themselves. However, due to its size and complexity, to date, it has not been pos-

sible for such bodies to present any results produced by this powerful tool, a situation which may be altered as a result of the technical changes recently introduced.

Seeking to answer the many questions that have been raised over the several years in which the report model was in effect, the goal of this oral communication is also to present the new model and the most significant changes introduced, in order to clarify companies and the various users of the information generated by it, especially health professionals.

A systematised reflection is also necessary regarding its possible use at a local and general level, and thus, some examples will be presented, duly contextualised.

TOPIC

VACCINATION

Characterisation of reported cases of Epidemic Parotitis (mumps) from 2002 to 2007 in the Region of Northern Portugal

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Keywords: National Vaccination Programme, vaccine, vaccination coverage

ABSTRACT

In Portugal, the National Vaccination Programme (NVP) began in 1965. The Portuguese NVP was considerably successful and relatively fast in reducing the morbidity and mortality levels of the diseases covered. The monitoring and evaluation of the NVP rely on indicators such as vaccination coverage, incidence rate of vaccine-preventable diseases, among others. The goal of this study was to evaluate the vaccination coverage rate of the vaccines included in the NVP, in birth cohorts from 1987 to 1993 and from 1995 to 2005 in the Northern region.

The study conducted was observational, descriptive and cross-sectional. The population under study consisted of the users registered at the Primary Care Centres of the Northern region. Vaccine coverage was assessed for birth cohorts completing 2, 6 and 14 years of age in the year of the assessment.

In the Northern region, the birth cohorts completing two years of age in the year in which the assessment was conducted achieved vaccination coverage rates of 95% or more in vaccines against: tuberculosis; diphtheria, tetanus and pertussis; invasive disease by haemophilus influenza b; poliomyelitis; hepatitis B and measles, mumps and rubella, with the exception of hepatitis B in the 1999 cohort, which attained a coverage of 93%. In cohorts completing six years of age in the year of the assessment, the vaccination coverage attained was at least 95% in vaccines against: diphtheria, tetanus and pertussis; poliomyelitis and measles, mumps and rubella, with the exception of the 1996 cohort. In young people completing 14 years of age in the year of the assessment, the coverages registered were equal to or higher than 95% in vaccines against: tetanus and diphtheria; hepatitis B and measles, mumps and rubella. Except for the 1987 cohort, in which the coverage of vaccines against: hepatitis B and measles, mumps and rubella was of 93%. In the 1988 cohort, the coverage of the vaccine against hepatitis B was of 92%. Over the past five years, these coverages were over 95% for all vaccines and in all the cohorts studied, be it at two, six or 14 years of age.

Vaccination coverages for the vaccines included in the NVP in the Northern region are excellent.

A		
Abade, C	32	
Abreu, JM	48	
Afonso, Z	09	
Aguiar, S	14	
Alexandra, AM	09	
Almeida, J	32, 35, 36, 39, 40, 42, 51	
Almeida, LM	19	
Almeida, MH	32	
Alonso, S	35	
Alpoim, C	22	
Alves, C	04	
Alves, MJ	36	
Amaral, MB	50	
Amaro, F	36	
Amorim, P	47	
Andrade, I	32, 35, 36, 39, 40, 42, 51, 53	
Andrade, P	34	
André, A	21	
Antunes, D	22, 33, 41, 51	
Antunes, H	25	
Araújo, A	04	
Azevedo, M	10	
Azevedo, R	22	
B		
Bacelar, C	11	
Baltasar, P	35	
Barbosa, AR	07	
Barbosa, MH	49	
Barbosa, MP	34, 49	
Barbosa, PC	17	
Barreiro, A	41	
Barreto, M	12	
Batalha, L	40	
Beckert, J	08	
Bekerman, C	32	
Bento, LF	29	
Bernardo, E	28	
Boavida, JM	03, 46	
Borges, N	17	
Borrvalho, C	29	
Borrvalho, MC	16	
Botelho, JS	16	
Bragança, A	44	
Bravo-Pinheiro, C	49	
Breda, J	08, 44, 46	
Brito, I	09, 52	
Bruno, P	22	
Bulhões, C	17	
Bulhosa, JF	47	
C		
Cabral, SV	49	
Cádima, MC	18	
Calado, R	19	
Calé, E	28	
Calheiros, JM	25	
Campos, HM	25	
Candeias, AC	53	
Cardoso, AS	09	
Cardoso, C	03, 46	
Cardoso, F	21	
Cardoso, M	24, 52	
Cardoso, SM	03, 33, 48	
Carmo, I	08	
Carmona, M	51	
Carnide, F	08	
Carreira, M	06, 16, 25	
Carvalho, AA	17	
Carvalho, C	06, 34, 37	
Carvalho, CS	42	
Carvalho, F	09	
Carvalho, IL	36	
Carvalho, J	50	
Carvalho, JA	09	
Carvalho, JM	32	
Carvalho, M	46	
Carvalho, R	03	
Castanheira, JL	13	
Castelão, MI	08	
Castro, M	13	
Catalim, AG	32	
Catarino, J	03, 06, 15, 16, 33, 46	
Cavaco, T	49	
Cediel, N	35	
Cerqueira, M	09, 39	
Cerqueira, MA	09	
Céu, MR	18	
Chasqueira, MJ	06	
Cláudio, D	10	
Coelho, C	42	
Coelho, S	41, 47	
Correia, AM	04, 05, 55	
Correia, AP	18, 21	
Correia, AC	21	
Correia, LG	03	
Costa, AL	48	
Costa, FR	50	
Costa, J	39	
Costa, JA	48	
Costa, L	29	
Costa, MH	41	
Coutinho, P	34, 49	
Cruz, JM	04	
Cruz, M	21	
Cruz, V	23	
Cunha-Filho, H	26	
Cunha-Oliveira, A	33	
Cunha-Oliveira, J	33	
D		
De Balogh, K	35	
De Meneghi, D	35	
De Vries, H	23	
Delgado, L	51	
Dias, CM	25	
Dias, JG	04, 05, 37, 55	
Diegues, P	43	
Domingues, RM	24	
Duarte, F	15	
Duarte, I	11, 44	
Duarte, MM	04	
Duttmann, C	35	
F		
Falcão, JM	14	
Falcon Perez, N	35	
Faria, S	32	
Farias, A	36	
Feijão, F	13	
Feliciano, J	06	
Felício, MM	12, 15, 16, 45	
Fernandes, A	41	
Fernandes, FM	38	
Fernandes, JV	38	
Fernandes, L	22	
Fernandes, T	06, 28, 37	
Ferreira, A	32, 35, 36, 39, 40, 42, 51	
Ferreira, AM	35, 40, 51	
Ferreira, E	34	
Ferreira, H	15	
Ferreira, J	52	
Ferreira, L	29	
Ferreira, M	07	
Ferreira, RA	50	
Ferreira, Sofia	54	
Ferreira, Sónia	42	
Figueiredo, J	32, 35, 36, 39, 40, 42, 51	
Figueiredo, L	17	
Figueiredo, S	23	
Fona, C	03	
Freitas, E	50	
Freitas, G	16, 28	
Freitas, M	17, 33, 50	
Freitas, MN	43	
Frias-Bulhosa, J	47, 48, 49	
Frutuoso, A	55	
Furtado, C	06	
G		
Ganchinho, PA	12	
Gandra, V	06, 37	
George, F	08	
Gidron, Y	54	
Gil, A	08	
Gíria, J	03, 06, 33, 46	
Gomes, CO	03, 06, 15, 25, 33, 37, 46	
Gomes, D	50	
Gomes, MA	22	
Gomes, P	41	
Gonçalves, AR	26, 29	
Gonçalves, EM	22	
Gonçalves, I	09	
Gonzaga, M	33, 51	
Gorniak, S	35	
Gouveia, MM	47	
Guerra, M	28	
Guilherme, M	41	
Guimarães, C	51, 53	
Guitian, J	35	
H		
Heitor, A	42	
Homem, FB	44	
I		
Iglesias, A	22	
J		
Jordão, MM	18	
Jorge, LV	06, 37	
José, SS	09	
K		
Keesen, L	35	
L		
Lacerda, L	44, 45	
Lança, IC	38	
Laranjeira, AR	19, 21	
Lavado, PB	07, 29	
Leça, A	08, 28	
Leguia, G	35	
Leitão, JC	04	

Lima, G	44
Lobão, F	04
Lopes, I	42
Lopez, A	49
Losada, M	49
Loura, M	50
Louro, H	09
Luís, MP	51
Luz, T	04, 36

M

Macedo, M	25
Machado, A	14
Machado, M	08
Machado, V	12
Maltês, H	39
Maltez, J	09
Manarte, P	47
Mansilha, C	42
Mansilha, RB	53
Manso, MC	47, 48
Marques, AM	19, 21
Marques, C	21
Marques, T	06
Martins, AP	08
Martins, JN	13
Martins, R	50
Martins, V	37, 43
Medeiros, LH	50
Meister, MC	22
Mendonça, D	04
Menezes, A	10
Mesquita, C	03
Mexia, A	32
Milhano, N	36
Morais, A	48
Morais, E	09, 49
Morais, P	11
Moreira, C	39
Mota, J	11
Mota, R	50
Moutinho, A	42
Moutinho, J	04

N

Nascimento, M	06
Natal, MD	24
Nereu, H	29
Neto, M	10, 11, 33, 53, 54
Neves, C	35
Neves, N	53
Nicolau, R	14
Nogueira, JM	10
Nogueira, P	15
Noronha, V	10
Núncio, MS	36
Nunes, B	12
Nunes, E	25
Nunes, L	44, 45

O

Oliveira, F	11
Oliveira, M	52
Ortega, C	35
Ortega, F	29

P

Paço, A	18
Padre, L	35
Paiva, I	11, 17
Paixão, S	03, 30, 32, 35, 36, 39, 40, 42, 51
Parreira, P	36
Pataco, V	08
Peixoto, A	34
Pereira, MG	48
Pfuetzenreiter, M	35
Pinho, F	41
Pinto, C	22, 49
Pinto, R	43, 50
Pires, JC	50
Pires, R	29
Pita, JR	33
Prazeres, V	19, 21
Precioso, J	25
Proença, S	32

Q

Queirós, L	04, 05, 22, 37, 55
Quintas, S	22
Quiros, L	35

R

Ramos, C	52
Ramos, E	11
Ramos, MC	24
Raposo, CS	23
Raposo, J	03
Ravara, SB	23
Rebello, MJ	05
Rebola, M	09
Rego, M	18
Reis, J	11
Reis, ML	04
Rentaria, T	35
Resendes, A	50
Ribeiro, CG	08
Riso, BM	52
Rito, A	08, 09, 44, 46, 52
Rocha, M	09
Rocha, MR	09
Rodrigues, A	34
Rodrigues, B	08
Rodrigues, CL	44, 51
Rodrigues, CN	23
Rodrigues, E	15
Rodrigues, F	52
Rodrigues, G	41
Rodrigues, N	34
Rodrigues, R	32
Romero, J	35
Rosa, MI	50
Rosa, N	11
Rosário, P	40
Rosas, M	53
Rosenfeld, C	35

S

Sá, L	49
Sá, N	35, 36, 39, 40, 42, 51
Saboga-Nunes, L	24
Samorinha, C	25

Santos, AS	36
Santos, CJ	17
Santos, C	32, 35, 36, 39, 40, 42, 51
Santos, FD	15
Santos, I	07
Santos, MM	37
Santos, M	09, 52
Santos, MJ	52
Santos, NS	27
Santos, P	37
Saraiva, M	22
Sauvageot, D	37
Sena, C	16
Serrador, J	11
Silva, A	03, 16, 25, 33
Silva, AJ	46
Silva, F	50
Silva, M	04
Silva, MJ	09
Silvestre, MJ	37
Simões, A	10
Simões, C	23
Simões, H	32, 35, 39, 40, 42, 51
Simón, C	35
Soares, C	19, 21
Soares, L	50
Soares, S	21
Sommerfelt, I	35
Sousa, JC	17
Sousa, N	10
Sousa, R	36
Sousa, S	51

T

Tavares, A	42
Tavares, J	52
Tavares, M	04
Teixeira, C	12, 45
Teixeira, E	04, 41
Tinoco, R	10
Torres, M	20, 35

V

Valente, P	28
Valério, C	17
Van Der Meer, R	23
Van Knapen, F	35
Vaz, EC	43
Veloso, S	11, 44
Veríssimo, C	21, 28
Vieira, M	05, 37, 55
Vilhena, M	35
Villamil, LC	35
Vinagre, S	24, 53, 54
Vintém, J	08
Viterbo, R	06, 37
Vitória, PD	23, 25
Viveiros, AV	50
Von Amann, GP	03, 18

W

Weigert, C	40
Willemsen, M	23

Z

Zé-Zé, L	36
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