

The IEA-EEF European Congress of Epidemiology 2012: Epidemiology for a Fair and Healthy Society

© Springer Science+Business Media B.V. 2012

Epidemiology for a fair and healthy society: Euroepi 2012

Henrique Barros

University of Porto Medical School, Institute of Public Health of the University of Porto

Epidemiology is an exciting science that provides the way to formulate intelligent questions and often responses to understand the dynamics of health and disease in the communities. Bridging different methods and fields of enquire the ultimate interest of epidemiology is the ability to make the well known distance from the bench side to the bed side even shorter if it also takes the way to the population side and back.

As times are changing also epidemiology seems to follow: from communicable diseases to non-communicable diseases, from biological determinants to social capital, from cross-sectional thinking to life course approaches, from the reductionist strategy of single agents or single genes to systems biology and systems public health. Thus an extraordinary diverse world of opportunities is born and many different approaches can be tested giving epidemiology new chances.

Any simple descriptive exercise in epidemiology can show us that iniquities in health are a main challenge faced by human societies. In the 1990 the median age at death was five years for those living in sub-Saharan Africa and seventy-five for those living in what was then called the established market societies. This is an essential hallmark of what can be a claim for a universal human right to health or, as Jonathan Wolff put it, the beginning of an “exercise in cautious idealism” (1), and probably the most interesting confront that epidemiologists have ahead of them: working for a fair and healthy society, especially in societies and at times of crisis. And all societies and times face crisis!

The European Epidemiology Conference that takes place in Porto, Portugal, from 5 to 8 September 2012 brings together research findings, scientists, clinicians and public health practitioners from 45 countries addressing, from multiple perspectives, the most important methodological and substantive findings that build up the health debate through the eyes of epidemiology.

On behalf of the Organizing Committee we sincerely hope that this meeting, and all these presented and published abstracts, might be a privileged moment to share knowledge and an opportunity to make

the epidemiological contribute even sounder, particularly regarding the making of evidence to inform action.

1. Wolff J. The human right to health. W.W. Norton & Company, Inc. 2012

Abstract submission and evaluation

Abstracts by country

Country	Submitted abstracts		Accepted abstracts		Accepted oral communication	Accepted as poster
	n	%	n	%		
Albania	3	0.4	2	66.7	1	1
Argentina	2	0.3	0	0.0	0	0
Australia	3	0.4	2	66.7	1	1
Austria	2	0.3	2	100.0	0	2
Belgium	3	0.4	2	66.7	1	1
Bosnia and Herzegovina	2	0.2	2	100.0	1	1
Brazil	152	23.0	99	65.1	13	86
Bulgaria	1	0.2	0	0.0	0	0
Canada	4	0.6	4	100.0	1	3
Croatia	5	0.8	5	100.0	0	5
Cyprus	3	0.4	3	100.0	1	2
Denmark	16	2.4	14	87.5	10	4
Egypt	1	0.2	1	100.0	1	0
Estonia	2	0.3	2	100.0	0	2
Finland	4	0.6	4	100.0	3	1
France	13	2.0	11	84.6	3	8
Germany	28	4.1	25	89.3	18	7
Greece	5	0.8	5	100.0	1	4
Iran	10	1.1	7	70.0	0	7
Ireland	3	0.4	2	66.7	1	1

metabolism (16.4 %), being the acetylsalicylic acid in low dosages, the active substance consumed by a larger number of inquired individuals (31.8 %). The *drug therapy complexity index* presented an average value of 18.2 (\pm SD = 9.6) [2.0–53.5]. The most determinant factors that contributed to the drug therapy complexity of the regimen were the number of medicines consumed and dosages frequency. These values are in line with the ones found in other published studies performed in institutionalized elderly in the same age group.

Conclusions The studied sample consumed a large number of medicines, with 76.6 % of individuals that took more than 5 drugs per day. The complexity of drug regimen evaluated by MRCI revealed to be related mainly to the medication number, but also to dosages frequency. If high, the drug therapy complexity can have a negative impact in medication adherence and expected results of treatment, and in these cases the need of regular medication review should be seen in order to simplify the therapeutic scheme.

P3R09

Effect of reducing sodium concentration in soups on hedonic evaluation by institutionalized elderly

Carla Gonçalves, Olívia Pinho, Patrícia Padrão, Vítor Teixeira, Pedro Moreira

Faculty of Nutrition and Food Sciences, University of Porto; Research Centre in Physical Activity, Health and Leisure, University of Porto; Public Health Institute from the University of Porto

Background The average salt intake reported in most countries including Portugal, is well above the guidelines. Reducing salt consumption is linked to improvements in blood pressure and a reduced risk of chronic diseases. Table and cooking salt are under discretionary control and may be targeted as strategies to reduce salt intake. However, reduced salt/sodium foods may be criticized for the alleged decreased palatability. Vegetable soup may be important as its consumption is negatively associated with obesity, but its high levels of sodium raised some concern recently.

Objectives The aim of this work was to assess the perception of salty taste and hedonic value of a vegetable soup served at lunch after 30 % reduction of habitual salt content, in a sample of institutionalized elderly.

Methods Twenty-nine Portuguese elderly (58–94 years, mean \pm SD = 79.7 \pm 8.9) with an average body mass index of 25.7 \pm 3.9 kg/m², institutionalized in two different nursing homes, were randomly assigned in this double-blind trial to either the treatment arm (30 % salt reduction in the soup) or the control arm (normal soup salt content). Each participant performed tests of flavour perception in the two experience days (washout period of 24 h) at 12 o'clock. Vegetable soups with two different sodium concentrations (normal salt content and 30 % salt reduced) were crossed over. The perception of salt content and hedonic evaluation of vegetable soup were derived from 100 mm visual analogue scale anchored at each end with the statements “extremely” and “not at all”.

Results Baseline concentrations of sodium in the soups offered by the two institutions shown that the added salt was 300.7 mg/100 g in one institution and 206.7 mg/100 g of soup in the other one; reductions of 30 % were made on these values. No differences in the medians of the perception of salty taste neither in the attributed hedonic value, were found between the baseline salt concentration soup and the 30 % salt reduction soup (salty perception: 5.0 vs. 7.8, p = 0.150; hedonic value: 0.8 vs. 0.7, p = 0.859).

Conclusions A reduction of 30 % of normal levels of salt in the soups did not result in a reduction of acceptability or significant change in the detection of salty taste by elderly. Soup could belong to group of

food where perform 30 % decrease in levels of salt without affecting valuation by consumers, particularly elderly.

P3R10

Hip fracture in elderly in Portugal: incidence from 2004 to 2010

Emanuel Rodrigues, Andreia Leite, Teresa Contreiras

Background Hip fractures related to osteoporosis and falls in elderly are an important cause of decreased health state. After Hip fracture older adults have a 5–8-fold increased risk of all-cause mortality, a 2.5-fold increase risk for the development of a new fracture and the majority of patients never regain previous level of independence. In Portugal, during 2006, Direção Geral da Saúde (DGS) estimated that 52 million Euros were spending in hospitals direct costs related with Hip fractures, with a medium cost of 4.100 Euros per hospitalization. **Objectives** Estimate the annual incidence of Hip fractures; describe the evolution between 2004 and 2010.

Methods Using Administração Central dos Sistemas de Saúde (ACSS) information from Hospitals Discharges (GHD) database, Hospitalization with code 8200–8201 (Classification of Diseases 9th Revision Clinical Modification—ICD-9-CM) as the main cause of hospitalization were considered as being due to Hip fracture. Number of hospitalization by Hip fracture was analyzed considering age (65–74, 75–84 and \geq 85 years) and sex. Incidence rates and respective confidence intervals for the hospitalization hip fracture were estimated for each age group and gender. For each age group and year official data (from Statistics Portugal) was considered as the number of people at risk of being hospitalized by a hip fracture.

Results For the group aged 65–74 years incidence rate varied between 0.49 by 1,000 Persons-year of follow-up (PYFU) [95 % confidence-interval (95 % CI): 0.45; 0.54] in 2010 and 0.65 by 1,000 PYFU (95 % CI: 0.60; 0.70) in 2004. For the group aged 75–84 years incidence rate varied between 1.99 by 1,000 PYFU (95 % CI: 1.89; 2.10) in 2010 and 2.41 by 1,000 PYFU (95 % CI: 2.30; 2.54) in 2006 and 2007. Considering people aged 85 or more incidence were highest in 2009 [6.86/1000 PYFU (95 % CI: 6.50; 7.24)] and lowest in 2010 [6.09/1000 PYFU (95 % CI: 5.75; 6.44)]. As far as the difference between sexes are concerned risk of hospitalization by hip fracture is approximately twice in women of all ages above 65 years comparing with men of the same age.

Conclusions The incidence rate of hospitalization discharges by hip fracture has been constant in the analyzed years. Further analysis is needed in order to understand the reasons on this phenomenon. Being an important cause of fracture we highlight the importance of fall prevention in this population.

P3R11

Malnutrition, depression and dependence of caregivers in elderly receiving geriatric support

Sara Almeida, Ricardo Castro, Sónia Sousa, Juliana Almeida-de-Souza

Diagnostic and Therapeutic Technologies Department, Health School, Polytechnic Institute of Braganza, Portugal

Background The prevalence of malnutrition in elderly population is high, which may result from multiple and cumulative chronic diseases (Hrnciarikova et al., 2011; Isaia et al., 2011), as anorexia, chewing difficulty and dysphagia. (Pirlich et al., 2001; Kaneda et al., 2000) Other factors and conditions can influence the health of the elderly, like Depression and the Need of a Caregiver (Garcia et al., 2001;

Funes-Avila et al., 2007). These factors demonstrate correlation, because the elderly who have depression are more likely caregiver dependency and have increased risk of malnutrition (Cabrera et al., 2007), as well as the elderly dependent of caregiver may be more likely to develop malnutrition (Payette, 2005) and depression, which means a dependent relationship between these three factors.

Objectives This study aims to determine the Prevalence of Malnutrition, Depression and the Need of Caregiver in the elderly of Braganza, and study the association between these variables.

Methods It was a cross-sectional study performed between February to April 2012, with subjects aged greater than 64 years old, institutionalized or day care in eight geriatric institutions from Braganza—Portugal. The malnutrition risk was evaluated with the MNA—Mini Nutritional Assessment (Vellas et al., 2006), Depression was evaluated with the GDS—Geriatric Depression Scale (Sheikh et al., 1991), and the subjects were questioned about their ability and autonomy in daily activities, to evaluate the Need of Caregiver. The data were statistical analyzed using qui-square test and phi coefficient by SPSS version 19.

Results The sample included 197 elderly, mostly female gender (67 %). The mean age was 83 ± 6 (65–96) years old. Regarding MNA, 23.4 % of subjects had no malnutrition, while 62.9 % of subjects were at risk of malnutrition and 13.7 % were malnourished. The Depression prevalence, assessed by GDS, was 86.8 % and Need of Caregiver prevalence was 59.4 %. After statistical analysis performed, it was possible to verify that malnutrition is associated with depression ($p < 0.0001$, $\Phi = 0.297$) and with the need of caregiver ($p < 0.0001$, $\Phi = 0.402$) and Depression is associated with the Need of Caregiver ($p < 0.0001$, $\Phi = 0.258$).

Conclusion In this study it was found that the prevalences of Malnutrition/Malnutrition Risk, Need of Caregiver and Depression in elderly are high, over half of the sample for all variables. There was a positive correlation between these variables, despite weak correlation between the Malnutrition with Depression and with Need of Caregiver or moderate correlation between Depression with Need of Caregiver.

P3R12

Serum lipids and bone mineral density in Portuguese older adults

Elisa A. Marques, Flávia A. Wanderley, André Moreira, Gustavo Silva, Jorge Mota, Joana Carvalho

Research Centre in Physical Activity, Health and Leisure Faculty of Sport, University of Porto, Portugal; Department of Immunology, Faculty of Medicine, University of Porto, Porto, Portugal

Background Compelling evidence has linked cardiovascular disease and osteoporosis. Because this is a complex issue with many confounding factors, there have been many different conclusions regarding the association between hypercholesterolaemia and low bone mineral density (BMD). As the Portuguese population ages, the incidence of both diseases is expected to increase. Prevention or postponement of age-related decline in cardiovascular and bone health is now of high relevance from a public health point of view.

Objectives The present paper reports the assessment of the lipid profile and BMD in a cohort of Portuguese older adults.

Methods A total of 101 healthy white older adults (mean \pm SD age, 68.7 ± 5.4 , age range 60–84) comprising 72 women and 29 men, free of medications known to affect bone were enrolled. Body mass index (BMI) was calculated in kg/m^2 . Fasting serum total cholesterol (TC), high density lipoprotein (HDL), and triglycerides (TG) were measured and low density lipoprotein (LDL) levels were calculated using standard formula: $\text{LDL} = \text{TC} - \text{HDL} - (\text{TG}/5)$. Proximal femur BMD was measured by dual-energy X-ray absorptiometry (DXA).

Body composition (lean mass, fat mass, and percentage of fat) was measured through whole-body DXA scans. Dietary intake was assessed by 4-day dietary record and physical activity was assessed using accelerometers. *T* tests were used for comparing differences in cholesterol and BMD between genders. Pearson correlations coefficients were calculated.

Results Serum TC, LDL, and HDL levels were higher and total hip, femoral neck BMD and lean mass were lower in women compared to men. There was no significant difference in age, TG, BMI, fat mass, macronutrient intake, and moderate to vigorous physical activity. No significant associations between serum lipids and total hip or femoral neck BMD were found for both men and women. HDL and TG correlated negatively with BMI and positively with fat mass ($r = 0.331$ and $p = 0.005$, $r = 0.378$ and $p = 0.001$, $r = 0.236$ and $p = 0.046$, $r = 0.402$ and $p < 0.001$, respectively) in women. HDL also correlated negatively with BMI ($r = 0.377$ and $p = 0.044$) in men.

Conclusions No correlations were found between serum lipid profile and BMD. In addition, some associations were observed between body composition variables and HDL and TG levels. Bigger studies or studies of selected cohorts are needed, but additional studies in animal models will be also very helpful to identify the genetic relationship between both lipid profile and BMD, both contributing to better understand the clinical relationship between cardiovascular disease and osteoporosis. Supported by Foundation for Science and Technology grant PTDC/DES/108780/2008—FCOMP-01-0124-FEDER-009606.

P3R13

Oral health and oral hygiene habits of institutionalized elderly from OPorto District

Sandra Gavinha, Patrícia Manarte Monteiro, Paulo Melo, M Conceição Manso

Universidade Fernando Pessoa; Universidade do Porto, REQUIMTE

Background An indirect parameter of oral health measurement is the evaluation of oral hygiene. Bad results may implicate serious oral disease, portraying a population that may present some of the basic life function altered: masticatory function ability, limitation regarding some food consumption, phonetics and other factors such aesthetics and self-esteem.

Objectives The objective of this study was to determine the oral health condition of the OPorto district institutionalized elderly through the oral hygiene care evaluation.

Methods Observational cross-sectional descriptive study, with 372 individuals, age ≥ 60 years; residents in 22 homes of the OPorto District, randomly selected (cluster) and directly examined in 2007. Descriptive/inferential analysis ($\alpha = 0.05$) and multivariable logistic regression (backward stepwise method, $p = 0.05/0.10$ for factor' inclusion/exclusion) was carried out using SPSS®vs.17.0 with the Complex Samples add-in.

Results The elderly mean age (\pm standard deviation) was $78.8 (\pm 9.1)$ years. In this group 69.9 % were female, 30.4 % had no schooling and 81.7 % were completely independent regarding oral hygiene tasks. Regarding dentate elderly, 38.9 % did not brush daily their teeth and only 33.1 % did it twice or more. No association was found between number of daily brushing times and age, but a significant association was found with gender ($p = 0.023$) and independence degree ($p = 0.013$), with higher number of daily brushing times for female and independent elderly. The dental plaque index was related to the number of daily brushing times, but not with gender and age. The predictor of dental plaque retained by the multivariate logistic regression model was the number of daily brushing times, with an