

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

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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

$P < 0.05$) was negative predictor of AO whereas no significant associations were found with LPA.

Conclusions In our sample, milk intake seems to be protective against to AO in girls. These results suggest that milk intake may be related to body fat distribution. Although in our study, no association was found for LPA, findings from observational and intervention studies suggest that regular physical activity is one of several behavioral factors important for prevention of deposition of abdominal fat. Hence, futures researches with more accurate measures are needed on the combined effects of milk intake and/or milk products and PA on AO.

P2J15

Cardiorespiratory fitness, weight status and objectively measured sedentary behaviour and physical activity in adolescents from different geographic communities

Aristides M. Machado-Rodrigues, Manuel J. Coelho-e-Silva, Jorge Mota, Cristina Padez, Raul A. Martins, Neiva Leite, Sean P. Cumming, Robert M. Malina

University of Coimbra, Portugal; University of Porto, Portugal; Department of Pediatrics, Federal University of Paraná, Brazil; School for Health, University of Bath, UK; Tarleton State University, Stephenville, Texas, USA

Background Cardiorespiratory fitness (CRF) is an important health marker that has a central role in the prevention of youth obesity. However, the aetiology of obesity is complex and is linked to some extent with environmental factors that contribute to the adoption of sedentary behaviours. It is common assumed in the literature that residents in rural communities with low population density frequently have limited access to health care, and also have socioeconomic, educational and nutritional inequities that can impact the healthy development of children and youth.

Objectives The present study aimed to analyse the associations among weight status (body mass index, BMI), cardiorespiratory fitness (CRF), and objective measures of sedentary behaviour and physical activity (PA) in a cross-sectional sample of adolescents from rural and urban areas.

Methods The sample included 362 youth 13–16 years of age (165 males, 197 females) from urban and rural regions of the Portuguese midlands. CRF was assessed with the 20-m shuttle-run test. A uniaxial accelerometer was used to obtain five consecutive days of activity behaviours including time being sedentary. Partial correlations and logistic regression analysis (controlling for sex and chronological age) were used to examine relationships among variables.

Results Rural adolescents of both genders had significantly higher levels of CRF than their urban peers. Urban males were more active than their rural peers at the weekend, whereas urban females were significantly less active than rural females on week days and across total assessed days. As expected, BMI was inversely correlated with CRF among both rural ($r = -0.35$, $p < 0.01$) and urban ($r = -0.42$, $p < 0.01$) adolescents. In addition, the logistic regression model revealed that both rural and urban youth with higher levels of CRF had a lower relative risk of being overweight/obese.

Conclusion The observations indicate important associations between weight status and CRF in both rural and urban Portuguese adolescents. Furthermore, place of residence has an important impact on weight status of this sample of adolescents. However, the results also highlighted a need to better understand the details of daily life of adolescents in urban and rural settings in order to define educational and perhaps clinical interventions.

P2J16

Nutrition transition in the Seychelles: 22-year trends

Isabel Cardoso, Pascal Bovet, Pedro Marques-Vidal

Instituto de Medicina Preventiva, Faculdade de Medicina de Lisboa; Institute of Social and Preventive Medicine (IUMSP), CHUV and University of Lausanne; Ministry of Seychelles

Background In the Seychelles there is currently no explicit information about nutrition trends. The available data is limited and largely based on food consumption surveys and food balance sheets.

Objectives To assess trends in nutrition patterns in the Seychelles between 1989 and 2011 among subjects aged 25–44 years.

Methods Random samples generated from Seychelles national censuses were used in 1989 ($n = 493$), 2004 ($n = 599$) and 2011 ($n = 471$). Food frequency questionnaire data were available for all surveys and the variables were collapsed into homogenous categories.

Results Consumption of fish (5+/week) decreased from 93 % in 1989 to 74 % in 2011 ($p < 0.001$). During the same period, the following consumptions increased: meat (5+/week), 25–51 %; fruit (1+/week), 48–94 %; salty snacks (1+/week), 22–64 % and sweet snacks (1+/week), 38–67 % ($p < 0.001$ for all). Home-brewed alcoholic drinks (1+/week) decreased from 16 to 1 % ($p < 0.001$), while the consumption of wine (1+/week) increased from 5 to 33 % ($p < 0.001$). Between 2004 and 2011, rice (2/day) decreased from 62 to 57 %, tea (1+/day) decreased from 72 to 68 % and poultry (1+/week) increased from 86 to 96 % (all $p < 0.01$), while no change was found for vegetables (70.3–69.8 %, $p = 0.65$).

Conclusion Seychelles is experiencing nutrition transition characterized by a decreased consumption of staple traditional foods (fish, polished rice and tea) and of inexpensive homebrews and increased consumption of meat, poultry and snacks. There are also trends toward more varied foods likely related to a substantially broader supply in the 22-year interval. Finer analysis should be performed to examine whether secular trends in food patterns may not necessarily be detrimental for health.

P2J17

Breastfeeding practices, appetite regulation and growth in healthy children in preschool

Daniela Soares, Daniela Moura, Lucinda Reis, Sara Soares, Juliana Almeida de Souza

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

Background Breastfeeding shapes food intake in children, through previous experience of basic flavors derived from the maternal diet by intrauterine life, by breast milk and also by the experience during the first year of life (Vereijken et al. 2011). In food choices, children only consider their preferences, based on known basic flavors, and these same preferences are now involved in appetite regulation (Faith et al. 2004). Developing the necessary skills to make safe and nutritious choices is undoubtedly a fundamental achievement that supports healthy growth. (Vereijken et al., 2011).

Objective Evaluate the association between breastfeeding practices, the Appetite Regulation and Healthy Growth in children between 3 and 5 years old.

Methodology A total of 327 children aged between 3 and 5 years old, living in the city of Braganza-Portugal and who attend kindergartens, were included in the sample. Two questionnaire were filled by parents of children: (1) A questionnaire regarding the regulation of appetite, *Child Eating Behaviour Questionnaire*-CEBQ (Wardle et al. 2001)

adapted to Portugal (Viana et al. 2008), which includes eight scales: Food responsiveness—FR, Emotional over-eating—EOE, Enjoyment of food—EF, Desire to drink—DD, Satiety responsiveness—SR, Slowness in eating—SE, Emotional under-eating—EUE, Food fussiness—FF. (2) A Question about breastfeeding practices in the period of 0–6 months to identify if the child was exclusively breastfed or not. Finally we proceeded the anthropometric measurements (weight, height and calculate BMI) of children and their BMI were categorized according to CDC recommendations (Kuczmarski RJ et al. 2002). Statistical analysis was performed using the SPSS version 20.0 using the Kruskal–Wallis test (F) and Mann–Whitney–Wilcoxon test (Z).

Results The sample mean age was 4 ± 0.8 years old. Children were mostly girls (51.7 %) and having been breastfed minority (43.7 %). A relation was found between breastfeeding practices and the score of one of the from CEBQ scales (DD): FR($F = -0.185, p = 0.912$), EOE($F = 2.436, p = 0.296$), RS($F = 1.437, p = 0.488$), SE($F = -0.463, p = 0.793$), **DD**($F = 9.895, p = 0.007$), SR($F = 1.877, p = 0.391$), EUE($F = 1.428, p = 0.490$), FF($F = 5.422, p = 0.066$). A relation was found between the score of the scales of CEBQ and percentiles: **FR**($F = 7.435, p = 0.024$), EOE($F = 4.757, p = 0.093$), RS($F = 1.473, p = 0.479$), SE($F = 4.620, p = 0.099$), DD($F = 12.55, p = 0.534$), SR($F = 0.337, p = 0.845$), EUE($F = 2.566, p = 0.277$), FF($F = 3.038, p = 0.219$).

Conclusion We detected significant differences between breastfeeding practices and regulation of appetite, particularly in the desire to drink, suggesting that exclusively breastfed infants have a lower desire to drink when compared with the others. There is also the existence of a relation between relative-age percentile BMI and appetite regulation, namely the pleasure of eating. Thus, children who are overweight or obese have a greater pleasure in eating.

P2J18

Making use of all available data for monitoring trends in the prevalence of smoking in Portugal: a systematic review

Helena Carreira, Marta Pereira, Ana Azevedo, Nuno Lunet

Department of Clinical Epidemiology, Predictive Medicine and Public Health of the University of Porto Medical School; Institute of Public Health of the University of Porto

Background Understanding the dynamics of smoking at the population level is essential for the planning and evaluation of prevention and control measures. The accurate estimation of the burden of morbidity and mortality associated with smoking requires an efficient use of all available resources to obtain detailed information for different age groups and populations across the widest possible timespan.

Objective To critically summarize the evidence from studies that quantified the prevalence of current smoking and to estimate its time trends in the adult Portuguese population.

Methods Pubmed was searched up to 2011 and the bibliographic references of the review articles were screened. Two researchers independently evaluated the studies to determine their eligibility, applying pre-defined criteria. Linear regression models were used to assess the differences in the estimates of prevalence of current smoking according to the type of population sampled in the original studies (general population, occupational groups, volunteers, university students, primary health care centres users), adjusting for the mean age of the participants, the geographical coverage of the study (national/regional) and the year of survey. The prevalences of current smoking reported by the National Health Surveys were also compared with those of the remaining studies involving samples of the general

population. We used linear regression models to estimate the annual percent change (APC) in the general population.

Results Twenty-eight eligible studies were identified. Samples of occupational groups, volunteers and university students yielded lower prevalences than those of the general population, independently of the participants' age, year of survey and geographical coverage. The National Health Surveys and the remaining reports of samples from the general population yielded similar prevalences. In the general population, between 1987 and 2008, the prevalence of smoking increased in women younger than 70 years, mainly among those aged 31–50 years [APC: 8.7 %, 95 % confidence interval (95 % CI): 5.9–11.6]. The prevalence did not change significantly in men aged ≤ 50 years (APC, ≤ 30 years: -0.7 , 95 % CI: -1.5 – 0.1 ; 31–50 years: 0.0 , 95 % CI: -1.6 – 1.5), and decreased in the older (APC, 51–70 years: -2.9 %, 95 % CI: -5.0 to -0.7 ; APC, ≥ 71 years: -16.5 %, 95 % CI: -27.4 to -4.0).

Conclusion This study provides a framework to critically summarize the published data on the prevalence of current smoking, as well as robust evidence to place Portuguese men at the later stages of the tobacco epidemic, and women between stages II and III.

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P2J19

Saturated fatty acids intake in relation to C-reactive protein, adiponectin and leptin: a population-based study

Susana Santos, Andreia Oliveira, Susana Casal, Carla Lopes

Institute of Public Health, University of Porto, Portugal; Department of Clinical Epidemiology, Predictive Medicine and Public Health and Cardiovascular Research & Development Unit, University of Porto Medical School, Portugal; REQUIMTE, Laboratory of Bromatology and Hydrology, Faculty of Pharmacy of University of Porto, Portugal

Background Evidence on the relation of saturated fatty acids (SFA) with inflammatory markers and adipokines is scarce and inconsistent. Moreover, comparisons across studies are limited by differences across the specific populations investigated, lacking information from population-based studies.

Objective To evaluate the association of the intake of total SFA, their subtypes (lauric, myristic, palmitic and stearic acids), and SFA to polyunsaturated fatty acids (PUFA) ratio (SFA/PUFA ratio) with serum concentrations of high sensitivity C-reactive protein (hs-CRP), adiponectin, and leptin among Portuguese adults.

Methods We studied 395 non-institutionalized inhabitants of Porto (52.2 % women; age range: 26–64 years) who were evaluated in 2010–2011, as part of the EPIPorto study follow-up. Trained interviewers administered a structured questionnaire comprising information on socio-demographic, clinical, and behavioural characteristics. Fatty acids intake was assessed with a validated semi-quantitative food frequency questionnaire. Dual energy x-ray absorptiometry (DXA) was performed for body composition analysis. Blood was sampled after a 12-h overnight fast and serum samples were stored at -80 °C. High-sensitivity CRP concentrations were determined through particle-enhanced immunonephelometry whereas adiponectin and leptin concentrations were measured by radioimmunoassay. Regression coefficients (β) and 95 % confidence intervals (95 % CI) were obtained from linear regression models, divided by sex.

Results After adjusting for age, education, regular physical exercise (at least 30 min/week of any leisure-time activity with energy expenditure higher than 2.5 metabolic equivalents), smoking status,