P2K07

Competencies on epidemiological research: methodological details of an ongoing national study about training and education needs

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Background The increase of epidemiological research and related activities require a proper identification of epidemiological professional competencies. This set of required competencies has become more complex due to the scientific updating of epidemiology, the enlarging scope of epidemiological research and its’ multidisciplinary and growing social responsibilities.

Objectives To characterize Portuguese national epidemiological practice, through the evaluation of perceived experience and training needs on core competencies on epidemiology, by Portuguese practicing epidemiologists.

Methods In the first phase of the project, an adapted Delphi panel was conducted to define the core competencies in epidemiology. Based on a comprehensive literature review, the competencies were listed and grouped into sub thematic domains. Portuguese researchers in diverse epidemiology areas were identified as experts by leading epidemiologists, and invited to review the list through a confidential questionnaire. After two consensus rounds, an experienced coordinator of educational programs was asked to verify the formal definition of each competency.

In a second phase, the list of core competencies and questions about academic and professional experience were combined into an online questionnaire, to be fulfilled by professionals using epidemiological methods in their clinical, research or teaching practice. Participants will be invited from public and private Portuguese institutions related in any way with epidemiology. A snowball sampling process will be conducted: each participant will be asked to forward the questionnaire link to all contacts within their institution and to at least two additional contacts outside their institution. Descriptive statistics, inter-rater reliability with kappa statistics and bivariate analysis ($\alpha = 0.05$) will be conducted to explore differences and agreement between training, practices and competencies on epidemiology.

Preliminary results In the first phase, 19 (90.5%) of the 21 invited experts, agreed to participate. The 87 competency list was reviewed by the expert panel that suggested 15 new competencies and the exclusion of 8. After the verification of the competencies’ formal definition, the final questionnaire includes 76 competencies grouped into 8 domains. In the second phase, 432 Portuguese institutions were invited to participate. Currently, 80 (18.5%) agreed to participate, 4 (0.9%) have refused and 31 (7.2%) declined the invitation since they do not practice epidemiology. The online questionnaire will be applied during May 2012.

Conclusions While promoting a strong participation through diverse areas where epidemiology may play a relevant role, we expect to provide a first characterization of national practice on epidemiology and the identification of training priorities in this area.

P2K08

Burden of disease attributable to risk factors in the northern region of Portugal

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Background For strategies and policies to improve population health and the allocation of resources, it is important to know not only the disease burden, but also the burden attributable to various underlying risk factors that cause disease and injury.

Objectives This study aimed to estimate the burden of disease attributable to selected risk factors in the Northern Region of Portugal for the period 2003–2005.

Methods The methods used in this study are similar to the ones used on the “Global Burden of Disease and risks factors” study published by the World Health Organization (WHO). To estimate the burden of disease attributable to each risk factor, we used updated information delivered by WHO for Portugal, for attributable fractions (AF), defined as the percentage reduction in disease or death that would occur if exposure to the risk factor were reduced to zero. Data on DALY (disability adjusted life years), and its components, were displayed by the Northern Region Public Health Department.

Results Tobacco smoking, with 9.4% of the total burden of disease, is the risk factor responsible for the greatest amount of healthy life years lost in the North of Portugal (first cause in men and third cause in women). High blood pressure is responsible for 8.1% of total DALYS (third cause in men and first cause in women). Alcohol consumption is responsible for 7.6% of the overall burden, but the burden attributable to this disease risk factor in men (10.8% of DALYS) is more than twice the one observed in women (3.8%). High BMI, with 6.6% of total DALYS and high cholesterol, with 4.3% of total DALYS come next on the list of the main risk factors which were studied. Illicit drugs consumption (2.8% of total DALYS), physical inactivity (2.4%), low intake of fruits and vegetables (1.6% of total) and unprotected sex (1.4% of total) also appear in the top 10 risk factors, responsible for more years of healthy life lost.

Conclusions By quantifying the burden associated with a range of risk factors, this study provides valuable insight into the possibilities of health gains in this Health Region, which will help to inform health planning and decision-making. Its main limitation is the access to reliable morbidity data for the Northern Region of Portugal. This study of the overall Burden of Disease attributable to Risk Factors is the first of its kind conducted in Portugal.

P2K09

Variability in the treatment of acute coronary syndrome. A multilevel methodological approach

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Background Variability in medical practice is an important issue that concerns to Health Systems currently. The lack of consensus or scientific evidence before a health problem can provoke the existence of differences in the application of procedures and interventions, which can provoke heterogeneity in decision-making by health professionals.
Burden of Disease attributable to Risk Factors in the Northern Region of Portugal, 2003-2005

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BACKGROUND

The global burden of disease (GBD) project is a comprehensive regional and global assessment of mortality and disability from 107 diseases and injuries and 24 risk factors, conducted by the World health Organization (WHO). It uses the DALY indicator (disability-adjusted life year) as a summary health measure of the population, which combines the estimates of years of life lost due to premature mortality (YLL) and years of life lived with disability (YLD). For strategies and policies to improve population health and the allocation of resources, it is important to know not only the disease burden, but also the burden attributable to various underlying risk factors.

This study intends to strengthen the evidence, concerning the risk factors and their attributable estimates of deaths and burden of disease. It continues the study of the Global Burden of Disease in the population of the North, published in April 2011, which first sought to identify the main causes of illness and mortality using the DALY methodology, and it is the first of its kind conducted in Portugal.

AIMS

This study aimed to estimate the burden of disease, in DALYs, attributable to selected risk factors in the Northern Region of Portugal for the period 2003-2005.

METHODS

The methods used in this study are similar to the ones used in the GBD studies published by the WHO. To estimate the burden of disease attributable to each risk factor, we used updated information delivered by WHO for Portugal, for the attributable fractions (AF), defined as the percentage reduction in disease or death that would occur if exposure to the risk factor was reduced to an alternative ideal exposure scenario. Once the fraction of a disease (or injury) contributed to a risk factor has been established, the attributable burden (AB) is the multiplication of the total burden of disease (B) estimates for the disease and the attributable fraction (PAF): AB = PAF * B, where B is the burden of disease in DALY, YLL or YLD. Data on DALY, and its components YLL and YLD, were displayed by the Northern Region Public Health Department. Several diseases are caused by more than one risk factor which, acting separately or together, can have an impact on disease risk. For this reason, the burden of disease attributable to each individual factor, usually overlaps and adds up to 100%.

RESULTS

The next table summarizes the total burden of disease, in DALYs, associated with the ten most important risk factors.

Tobacco smoking, with 11.4% of the total burden of disease, is the risk factor responsible for the largest amount of healthy life years lost in the North of Portugal (first cause in men and third cause in women). High blood pressure is responsible for 8.1% of total DALYs (third cause in men and first cause in women). Alcohol consumption is responsible for 7.6% of the overall burden, while the burden attributable to this disease risk factor in men (10.8% of DALYs) is more than twice the one observed in women (3.8%). High BMI, with 6.6% of total DALYs and high cholesterol, with 4.3% of total DALYs, come next on the list of the main risk factors which were studied.

Illicit drugs consumption (2.8% of total DALYs), physical inactivity (2.4%), low intake of fruits and vegetables (1.6% of total) and unprotected sex (1.4% of total) also appear in the top 10 risk factors, responsible for more years of healthy life lost in this region.

Burden of disease attributable to Tobacco

We also analyzed the 10 risk factors associated with the greatest disease burden. As an example, we present results for tobacco consumption which is responsible for 52,907 DALYs. Malignant neoplasms represent 34% of total years of healthy life lost due to tobacco, followed by diseases of the circulatory system (23.3%) and respiratory diseases (21.3%). In the analysis by specific cause of death or disability, Chronic Obstructive Pulmonary Disease (COPD) emerges as the leading cause with more DALYs due to tobacco consumption, mainly due to the YLD component (Figure 2). Malignant neoplasms of the trachea, bronchus and lung, cerebrovascular disease and ischaemic heart disease come next, being the YLL component the major contributor to the burden of disease.

A similar analysis was performed for the remaining nine risk factors.

CONCLUSION

This study highlights the lifestyle risk factors, such as tobacco smoking, alcohol consumption, physical inactivity and unsafe sex, as being responsible for a considerable proportion of the total burden of disease in the Northern Region of Portugal. Tobacco smoking is the risk factor responsible for the greatest burden of disease: about 17 per cent of the total burden of disease for males and 8 per cent for females. By quantifying the burden of disease associated with a range of risk factors, this study provides valuable insight into the possibilities of health gains in this Health Region, which will help to inform health planning and decision-making. Its main limitation is the access to reliable morbidity data for the Northern Region of Portugal. This study of the overall Burden of Disease attributable to Risk Factors is the first of its kind conducted in Portugal.