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PP 134**HARMONIZATION OF DIETARY QUANTIFICATION METHODS: CAN QUANTIFICATION BY A COMMON BASED PICTURE BOOK COVER SPECIFIC NEEDS OF A COUNTRY?**T. Rodrigues¹, C. Cruz¹, S. Vilela¹, C. Lopes², D. Torres³, S. Guiomar¹¹Health Promotion and Chronic Diseases, National Institute of Health Dr. Ricardo Jorge, ²Institute of Public Health, University of Porto, ³Faculty of Nutrition and Food Sciences, University of Porto

The Pilot study in the view of a Pan-European dietary survey – adolescents, adults and elderly (PILOT-PANEU) is being developed with the objective of harmonizing the collection of dietary data between countries. The collection of dietary information will be done by using the Epic-software and by the application of structured questionnaires. For the quantification of food intake, four methods can be used: food photographs, household measures, standard units or shapes. Regarding the quantification by photographs, for each country the original EPIC-soft Picture Book was adapted through the selection of the photos needed and the possible addition of new photos. The main purpose of this work is to access the ability of a picture book common to several countries to cover the traditional dishes and the specific portions consumed in a particular country. To answer this question we intend to analyze the case of Portugal, comparing the adapted EPIC-soft Picture Book with the two national picture books. Parameters as the number of photographic series, the food groups considered, the number of portions in each series, the portion weight, the application of a different methodology to estimate the same food item or the technical details of the photographs were considered. This study leads us to reflect about the susceptible situation of the harmonization process. If in one hand we have the generalization of concepts and methods, on the other hand the specificities of each country have to be considered. Aligning what is common with what is specific can be considered a starting point for harmonization of dietary quantification methods.

PP 135**VALIDATION OF FOOD PHOTOGRAPHS USED TO ESTIMATE FOOD PORTION SIZE ACROSS PILOT-PANEU COUNTRIES**S. Vilela¹, D. Torres², D. Torres³, S. Guiomar¹, T. Rodrigues¹, C. Cruz¹, C. Lopes⁴, C. Lopes⁵¹Department of Health Promotion and Chronic Diseases, National Institute of Health Dr. Ricardo Jorge, ²Faculty of Nutrition and Food Sciences, University of Porto, ³Department of Biochemistry (U38-FCT), Faculty of Medicine, University of Porto, ⁴Department of Clinical Epidemiology, Predictive Medicine and Public Health of Medical School Porto University, ⁵Institute of Public Health, University of Porto (ISPUP)

The Pilot study in the view of a Pan-European dietary survey (PILOT-PANEU) aims to develop and test methods and procedures for the estimation of dietary risks and identification of dietary habits in nationally representative samples of adolescents, adults and elderly in Europe. Food photographs are used to help subjects estimating more accurately the amounts of food consumed. These aids are used widespread including in PILOT-PANEU countries since they are easily adaptable to local conditions, cheap, reproducible and transportable. Three psychological constructs affect individual portion-size reports: perception, conceptualization and memory. In this study, the perception will be the only dimension covered, which can be defined as the individual ability to estimate the size of a presented food portion by selecting one photograph from a set of photographs depicting different amounts of a particular food. In this validation study, a minimum of 21 adolescents (10-17 years) and 21 adults (18-74 years) were recruited from each PILOT-PANEU country (Bulgaria, Finland, Germany, Hungary, Poland and Portugal). Representative food photo series were chosen to cover a wide range of food groups, achieving approximately 25% of the PILOT-PANEU Picture Book. Various dishes and food items were prepared; the majority were identical to the food item depicted in the picture series and prepared using the same recipe as the food presented in the picture series. A minority (approximately 30%) of the food served did not have exactly the same weight as the one in the photo, to simulate a more real situation. For the statistical analysis a weighted kappa was used to access the pattern of agreement between the served and estimated portion size. The percentages of portion correctly identified, over-estimated and underestimated with the photographs were calculated for each subject and each food and the chi-square test was used to access statistically significant differences between the proportions. To investigate how served portions, age, gender and Body Mass Index explain the variability of estimated weight, a multiple regression analysis was performed. The results of this study will contribute to the development of a harmonized and validated picture book to be used during the PILOT-PANEU, as recommended by EFSA.

PP 136**COMPUTERIZED DIETARY INTERVIEWS: DEFINING GUIDELINES FOR THE CONSTRUCTION OF FOOD CONSUMPTION ASSESSMENT SOFTWARES FOR EUROPEAN POPULATIONS**

C. Cruz¹, T. Rodrigues, S. Vilela, S. Guiomar, C. Lopes², D. Torres³

¹Health Promotion and Chronic Diseases Department, ²Institute of Public Health, University of Porto (ISPUP). Department of Clinical Epidemiology, Predictive Medicine and Public Health of Medical School, ³Faculty of Nutrition and Food Sciences, University of Porto. Department of Biochemistry (U38-FCT), Faculty of Medicine, University of Porto

According to the observed needs at European level in terms of harmonization of methodologies for assessment of food consumption, the softwares providing support on conducting interviews are one of the most useful tools at the moment.

The main purpose of this work is to create guidelines for the construction of improved food consumption assessment softwares. To accomplish this purpose we examined which existing softwares were able to integrate registration of personal data, consumption and nutritional composition from different databases and determined which characteristics could be added to improve this type of software.

Conclusions obtained through this initial work resulted in a proposal for the development of a software to conduct and support an interview of assessment of dietary intake, with integration of multiple databases on personal data (e.g., sociodemographic, health and physical activity), consumption data (e.g. food, supplements, recipes, methods of quantification) and the nutritional composition data.

To provide a tool harmonized for all the countries interested, the data could be collected from the countries and compiled in the same way. All the food photos, recipes and portion sizes for each country should be used in a digital format, which will allow greater versatility during the interview or the dietary habits recall.

For the modeling of databases, tables of association can be created between the entries, enabling the synchronization between the personal data, the food consumption data and nutritional composition data and the subsequent transformation of food consumption data on nutritional data.

This software should present intuitive interfaces for the introduction of personal data and for the food intake record. The results of each interview should be presented as a unique report including personal, dietary and nutritional data.

This study urges as a response to the growing need for European harmonized dietary collection methodologies, providing the tools to the development of a new software that can enable countries to collect and compare background, health, physical activity and nutritional information.

PP 137**THE ASSOCIATION BETWEEN CRUCIFEROUS AND GREEN LEAFY VEGETABLE INTAKE WITH RISK FOR PREMENOPAUSAL BREAST CANCER RISK**

T. Agurs-Collins¹, E. Iversen²

¹National Cancer Institute, Division of Cancer Control and Population Sciences, ²Department of Statistical Science, Duke University, Durham

Introduction: Large epidemiological studies suggest that cruciferous and green leafy vegetables may be associated with reduced risk of some types of cancer, but the evidence is inconclusive. Cruciferous vegetables are rich in glucosinolates and other compounds which are important anticarcinogens. The study aims to examine the association between cruciferous and green leafy vegetable intake with risk for premenopausal breast cancer by harmonizing two international food frequency questionnaires (FFQ).

Design: The study design is a population-base case-control study (1942 cases and 703 controls) of premenopausal women participating in three international cancer centers (Ontario, California and Australia) in the NCI funded Breast Cancer Family Registry (BCFR). Two food frequency questionnaires were used: the Hawaiian FFQ, which includes 180 foods and beverages and the Australian FFQ with 119 food and beverages consumed within 12 months of study participation. Cruciferous vegetable consumption includes (e.g. broccoli, cabbage, cauliflower, brussels sprouts) and green leafy vegetable (e.g. kale/mustard greens, spinach).

Analysis: We describe a method for harmonizing nutrient intake data obtained from two sources where the measurements collected by one (frequencies; Australia) are a subset of those collected by the other (frequencies and amounts; Hawaii). We use the latter to develop and evaluate a model for imputing nutrient intake given the variables available in the former. We quantify its predictive accuracy in terms of its calibration, bias and mean squared error in predicting a 'test' set of samples not used in model construction and describe the implications of using values predicted in this way in lieu of the true values in a case control analysis. We highlight this method in an application to measuring the association between cruciferous and green leafy vegetable intake with risk for breast cancer using the BCFR data.

Expected Results: The method we develop allows for a co-analysis of data from two distinct sources where one collects a subset of the information necessary for complete assessment that is available in the other. We estimate the loss of power and bias that results from utilizing the imputed as opposed to the true nutrient intake data and describe an analysis of real data from the BCFRs.