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

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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 conduce 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.

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

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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 use: 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, brussel 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.