Comparison of computerised dietary assessments with diet history and food record data at baseline in an Australian food-based clinical trial

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Abstract
Background: Food-based clinical trials are vital to advance the scientific evidence for the impact of food on health. These trials require stringent dietary assessment to substantiate effects. We are evaluating the use of a self-administered computerised dietary assessment (DietAdvice) in a current food based weight loss trial.
Objective: This cross sectional study aims to compare data from DietAdvice with diet history (DH) and food record (FR) dietary assessments measured at baseline. Materials and Methods: Baseline data for n=71 overweight (23-60 years, BMI 25-37 kg/m2) participants was utilised. Macronutrient data for matched dietary assessments from n=32 participants was obtained for the DH assessment while only n=30 matched FR data sets were available. Pearson's correlations and Goldberg cut-off limits were calculated to determine relationships and levels of underreporting between assessment methods respectively. Results: DietAdvice provided significantly higher reported energy intake (kJ) compared to both the DH and the FR (P < 0.01). There were relatively high correlations (r² =0.740 and 0.596, respectively) between data from the methods. In the DH 35% (n=25/71) of participants underreported their energy intake whereas only 19% (n=13/69) underreported in the FR and only 16% (n=5/32) while using DietAdvice. Significance: This study suggests that further evaluations of the DietAdvice program in a clinical trial is warranted, particularly in determining the efficiency of food based interventions. Biomarker validation of data may be of value as DietAdvice consistently provided larger reported intakes compared to the DH and FR and the traditional dietary assessment methods displayed high levels of underreporting of energy intake. The results indicate that the DietAdvice and the FR are more comparable than the DH though replacement of the traditional FR is not yet warranted.

Keywords
computerised, assessments, food, dietary, comparison, data, clinical, trial, history, record, baseline, diet, australian

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DEVELOPMENT OF VERSION 4.0 OF THE ILSI CROP COMPOSITION DATABASE. Rob Alba; William P. Ridley; Raymond Shillito; Marci Levine. 1Monsanto Company, St. Louis, MO; 2Bayer CropScience, Research Triangle Park, NC; 3International Life Science Institute (ILSI), Washington DC.

Keywords: International Life Sciences Institute (ILSI), crop composition, maize, soybean, cotton

Background: The ILSI Crop Composition database supports research and regulatory science in areas such as plant biology, agricultural biotechnology, food chemistry, and animal nutrition. The database is a useful tool for the safety assessment of genetically modified food and feed. Version 3.0 of the database contains 118,000 data points pertaining to nutrients, anti-nutrients, and metabolites in conventional varieties of corn, soybean, and cotton.

Objective: Ongoing efforts serve to maximize database utility for a broad range of academic, industry, and regulatory scientists.

Description: the ILSI International Food Biotechnology Committee and representatives from seven agricultural biotechnology companies are collaborating to improve database performance, make the graphical user interface more intuitive, and increase the volume of informative data. Usability has been improved by shifting from the PERL language to the enhanced database structure and performance features inherent in the Java language. Performance, security, availability, and scalability will be enhanced by employing the Oracle Database 11g Standard Edition One software on a new Dell™ PowerEdge™ R200 Quad-Core server. Version 4.0 provides amino acid and fatty acid data in multiple formats, including % FW, % DW, % Total, and mg/g. Data summaries now include the number of values for analytes that were below the Limit of Quantitation (LOQ), which aids interpretation of data output. Version 4.0 also allows users to obtain data output as Excel tables, which facilitates downstream processing and analyses. Additional corn and soybean data will soon be added to the Crop Composition database, and data for crops like rice, wheat, and canola continue to be encouraged. Conclusion: The ILSI Crop Composition database is undergoing a significant upgrade and desired improvements are targeted for completion early in 2009. These improvements serve to maximize the usefulness of this tool for a broad range of scientists, agricultural companies, and regulatory agencies.

COMPARISON OF COMPUTERISED DIETARY ASSESSMENTS WITH DIET HISTORY AND FOOD RECORD DATA AT BASELINE IN AN AUSTRALIAN FOOD-BASED CLINICAL TRIAL. Yasmine Probst, PhD, APD; Virva Sarma; Linda Tapsell, PhD, FADA. Smart Foods Centre, University of Wollongong, Wollongong, NSW, Australia.

Keywords: computerised dietary assessment, food-based clinical trial

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