



## The New version of Danish food composition database FRIDA including a case study on recipe calculation compared to a chemical analysis

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## 2016 NNDC ABSTRACT TEMPLATE

**Title:** The New version of Danish food composition database FRIDA including a case study on recipe calculation compared to a chemical analysis.

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**Type:** Research

### Abstract

**Objective:** Constantly updated food data that reflect the food supply, such as the recently published <http://frida.fooddata.dk>, is essential for recipe calculation in dietary assessment. The objective of this study was to compare the content of selected nutrients estimated by recipe calculation and chemical analysis of fast food based on data from <http://frida.fooddata.dk>.

**Materials and methods:** New fast food data in <http://frida.fooddata.dk> was based on 135 samples of ready to eat fast foods as burgers and sandwiches collected from fast food outlets, separated into their recipe components which were weighed. Typical components were bread, French fries, vegetables, meat, and dressings. The fast foods were analyzed and the content of energy, protein, saturated fat, iron, thiamin, potassium and sodium were compared to recipe calculation. Wilcoxon Signed Rank test, Spearman correlation coefficients and Bland-Altman plots were used for comparing the two methods.

**Results:** Overall there were differences between the chemical and recipe analysis for energy, protein, saturated fat and iron ( $P < 0.01$ ), but not for thiamin, potassium and sodium ( $P > 0.05$ ). The error percentage was largest for saturated fat (28%). Correlations ranged from 0.49 for iron to 0.75 for energy. Bland-Altman plots showed larger differences for higher contents for thiamin and potassium. Results depended on the type of fast food. For burgers ( $n=36$ ) there was no significant difference for any of the nutrients between the two methods. Meat/French fry mix ( $n=16$ ) had significant differences ( $P < 0.01$ ) for five out of seven nutrients, and the fast food type with the largest difference between the two methods.

**Significance:** Recipe calculation is a cost-effective alternative to chemical analysis in dietary assessment and nutrient labeling. But recipe calculation can introduce deviations compared to chemical analysis. Future challenges for [Frida.fooddata.dk](http://frida.fooddata.dk) in relation to recipe calculation, could be to include more varieties and better coverage of foods used as ingredients.

**Key words** (2 to 6): <http://frida.fooddata.dk>, nutrient content, recipe calculation, food composition data, dietary assessment.

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Advances in using composition data for dietary assessment

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