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## Introduction

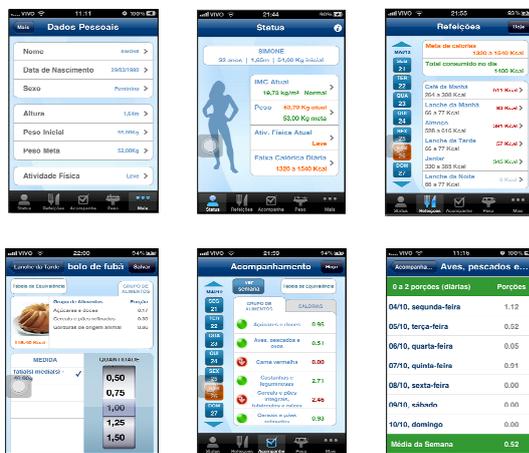
Since 2009 the Digital Food Guide (DFG) has been a feature that allows the rapid incorporation of healthy eating guidelines. In three years advances in understanding the role of food in the prevention of chronic diseases has qualified the indicators of diet quality, especially on the consumption of meat and the importance of nuts and other representatives from the Brazilian biodiversity<sup>1,2</sup>.

## Objective

Improve DFG by reviewing the components of dietary analysis.

## Methods

The Recommended Dietary Intakes<sup>3, 4, 5, 6, 7, 8</sup> and the guidelines for a healthy diet that emerged from the School of Public Health at Harvard University<sup>8, 9</sup> are adopted as a conceptual framework. DFG converts dietary intake into food groups, according to the corresponding reference, modulating portioning for different values of energy recommendation. We used the tables of food composition BTFC<sup>1</sup> and USDA National Nutrient Database<sup>10</sup> to build the database of foods. All recipes are classified into food groups which all the ingredients; the application does not require the use of internet for its operation. The technical information and usability of the DFG are shown below:



**Personal data:** Name, Date of Birth, Gender, Height, Initial Weight, Goal Weight (not mandatory) and Physical Activity.

**Status:** Age, Height, BMI, weight (current and target), Physical Activity and Daily Energy Range. If the user is individually monitored by a health professional, he can change the daily energy range.

**Meal (daily information):** Suggested values of energy, the total energy consumed and distribution within six meals.

**Food:** From the selection of the food or recipe, the user has access to more detailed information: household measure, quantity, portions and food groups.

**Monitoring:** Beyond the colors, this screen also displays an arrow which represents the best result of ingesting information of the user.

**Week View:** Access to the result of ingestion by food group in each day of the week. The average performed at the bottom of the screen corresponds to the number of days registered in the application.

The green and red colors indicates to the user if the result is according or not of the reference value.

## Results and Discussion

Eleven food groups of DFG are distributed among “moderation” and “adequacy” components, each one with indication of frequency and energy level per serving; the last component is “variety”. Those components are an attempt to bring together international expertise in nutrition and to translate dietary recommendations through a range of cultured referenced Brazilian food items.



Table 1. Digital Food Guide components and scoring, Brazil, 2012.

| Food groups                             | Max Score |
|---|-----------|
| <b>Moderation components</b>            |           |
| Sugar and sweets: 0 a 1 portion         | 10        |
| Beef and pork: 0 a 1 portion            | 5         |
| Animal fat: 0 a 1 portion               | 10        |
| Refined cereals: 0 a 2 portions         | 5         |
| <b>Adequacy components</b>              |           |
| Poultry, fish and eggs: 0 a 2 portions  | 5         |
| Nuts and legumes: 1 a 3 portions        | 5         |
| Whole grains: 4 a 5 portions            | 10        |
| Fruits: 3 a 5 portions                  | 10        |
| Vegetables: 4 a 5 portions              | 10        |
| Milk and dairy products: 2 a 3 portions | 10        |
| Vegetable oil: 1,5 a 2,5 portions       | 10        |
| <b>Variety</b>                          | 10        |

### Moderation components:

these values were established considering that they may bring risk when there is excessive consumption, in order to protect the diet from excess of refined carbohydrates, foods with high glycemic index and saturated fat.

### Adequacy components:

reference values are proposed for portions representing the amount in each group compatible, with the purpose of meeting nutritional recommendations for adults, in the food eaten in 24 hours.

## Conclusion

The concept that guided the design of the DFG allows for the swift incorporation of dietary guidelines. The readiness provided by digital technology can contribute positively to the improvement of eating practices.

## References

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