

Calculating nutritional quality per 100 g or per serve

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Nutrient profiling scores the nutritional quality of foods and it is widely used for food procurement purposes. While the majority of nutrient profiles are calculated per 100 g of product, the relative impact of a food on the overall diet is a function of its composition and the amount consumed. Calculating nutrient profile per serve has been suggested as an alternative to 100 g but limited research has been conducted to compare the two⁽¹⁾.

In this study we designed a score based on the difference between the mean of positive nutrient ratios (fibres, proteins and fruits & vegetables) and negative nutrient ratios (total sugars, saturated fats and sodium) calculated using either nutrient content in 100 g, or in a serving of food. The scores were tested on the US Food Nutrient Dataset for Dietary Studies (FNDDS), using regulated serving sizes (RACCs). Fruit and vegetable content were issued from the Food Pattern Equivalent Database. Spearman correlation with the Ofcom score⁽²⁾ was calculated.

The tested scores showed strong correlations (>0.7) with the Ofcom score, excepted for food products where the score per serving was slightly below the cut-off (Figure). For beverages, the scores showed a high association with the Ofcom score, independently of the reference amount.

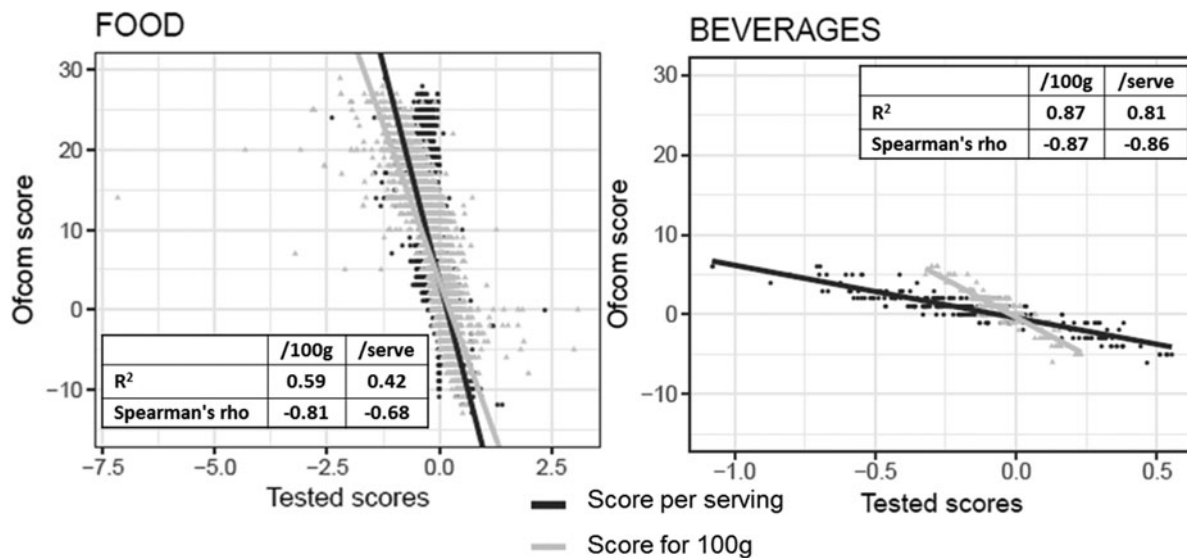


Figure. Correlation between the tested and the Ofcom scores, for food and beverages.

This analysis showed that the choice of reference amount might be more important for foods than beverages, although the better performance of the 100 g algorithm might be explained by the fact that the Ofcom score is also based on 100 g. Here we used US data as serving sizes are regulated in this country. However, we do not know how a score per serving would perform in the absence of regulated serving sizes. Further analyses need to assess the association between the proposed scores and dietary quality.

1. Drewnowski A, Maillot M, Darmon N (2008) *Eur J Clin Nutr* 63(7):898–904.
2. Rayner M, Scarborough P, Lobstein T. *The UK Ofcom nutrient profiling model – defining ‘healthy’ and ‘unhealthy’ food and drinks for tv advertising to children* [internet] (accessed April 2017).