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RESULTADOS: Dos 43 produtos analisados, nenhum produto foi classificado como A; apenas 2,3% (n=1) foram classificados como B; a classificação C foi atribuída a 9,3% (n=4) dos produtos; a maioria (55,8%) foi classificada como D (n=24) e classificados como E foram 18,6% (n=8). Não foi possível classificar os restantes (n=6) por informação insuficiente para o cálculo.

CONCLUSÕES: A maioria dos géneros alimentícios analisados apresentam *Nutri-Score* indicativo de contributo nutricional pouco favorável. Torna-se, assim, evidente a necessidade de reformulação, adequação e equilíbrio da composição destes alimentos, de forma a contribuir positivamente para escolhas mais conscientes e saudáveis.

PO109. WHOLE MEALS NUTRITIONAL COMPOSITION: COMPARISON BETWEEN EXPERIMENTAL AND THEORETICAL DATA

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INTRODUCTION: Information concerning food composition is essential in public health and nutrition. Chemical analyses are the most accurate methodologies for the assessment of food composition, however, these procedures are very expensive and time-consuming. Therefore, food composition data has been compiled in databases to facilitate the access and manipulation of information. Although food composition databases (FCDB) are vital tools, they have some limitations.

OBJECTIVES: Compare macro and micronutrients contents of six meals obtained from two different FCDB, as well as, by chemical analyses.

METHODOLOGY: Six meals (Table 1) were prepared and cooked under controlled conditions. Nutrient contents were assessed experimentally using official methods as well as calculated using both the Portuguese food composition table (TCAP) and the USDA FCDB. Hierarchical clustering on principal components with Euclidean distance measure and Ward's method was performed on each diet for all nutrients, macro, and micro. The characterization significance threshold considered to characterize the category was 5%.

TABLE 1

Food components of meals (M)

M	Food components
M1	Roasted fatty beef + French fries + Sugary soft drink
M2	Roasted mackerel + French fries + Sugary soft drink
M3	Canned chickpeas + French fries + Sugary soft drink + Vegetable oil
M4	Roasted lean beef + Olive oil French fries + Sugary soft drink + Olive oil
M5	Roasted fatty beef + French Fries + Broccoli + Sugary soft drink
M6	Roasted fatty beef + French fries + Freshly made strawberry juice

RESULTS: Overall, USDA database values were separated from the experimental results (ER). As for TCAP, it was grouped with ER for M1, M2, M4 and M6. Interestingly, when macro and micronutrients were analyzed separately, different trends between TCAP and ER were observed: unlike M3, the other 5 meals are grouped by macronutrients and separated by micronutrients. The different trends found for the referred 5 meals may be due to the seasonal variation of foods.

CONCLUSIONS: Meals composition predicted by TCAP were closer to the real values found in whole meals than the predicted by USDA database, probably due to food origin. However, regarding micronutrients, ER and TCAP values diverged. In order to attenuate the observed discrepancies between theoretical and experimental results, FCDB should provide a correction factor to adjust

composition data to seasonality of foods. Notwithstanding, FCDB represents a reliable tool to assess nutritional composition of meals.

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PO110. IMPACT OF FOOD REPLACEMENTS WITHIN A MEAL IN THE NUTRIENTS PROFILE AND QUALITY INDICES

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INTRODUCTION: Modern societies are increasingly prone to chronic non-communicable diseases linked with inadequate nutrition. Knowledge about macronutrients balance, micronutrient deficiencies, bioactive and harmful compounds is the starting point of a holistic approach concerning the effects of ingestion of a whole meal in human health.

OBJECTIVES: Assess the impact of integrating healthy foods in a whole meal based on "Western diet" (WD) pattern in the nutrients profile and nutritional quality indices.

METHODOLOGY: A WD model and other 5 meals (Table 1), resulting from replacement of foods within the WD model were prepared. 25 Nutrients were analysed at laboratory. Atherogenicity (AI) and Thrombogenicity (TI) Indices were also calculated. Parametric analysis was carried out by one-way ANOVA and non-parametric test by Kruskal-Wallis.

RESULTS: Compared to WD: all meals presented similar amounts of carbohydrates ($p < 0.05$); Fiber content of R2 was higher while R4 and R5 were not significantly different. Concerning AI and TI (Table 1): R4 presented the highest values by reduction of polyunsaturated (PUFAs) and monounsaturated fatty acids, although not significant ($p > 0.05$); R2 and R1 presented the lowest AI and TI respectively, with highest PUFA and less SFA, as well as lower fat content ($p < 0.05$); R3 also presented lower AI and TI levels, with more MUFA and less SFA ($p < 0.05$).

TABLE 1

Food components of WD model and healthier food replacements (R)

				FAT CONTENT	AI	TI
WD (Control)	Fatty beef	French fries	Sugary soft drink	5.08±0.50	0.52 (0.49-0.57)	1.01 (0.94-1.08)
R1	Mackerel	French fries	Sugary soft drink	3.12±0.11*	0.17 (0.17-0.18)*	0.18 (0.18-0.19)*
R2	Chickpeas	French fries	Sugary soft drink	3.97±0.20*	0.08 (0.08-0.09)*	0.21 (0.20-0.22)*
R3	Lean beef	Olive oil French fries	Sugary soft drink	4.92±0.27	0.26 (0.26-0.27)*	0.60 (0.58-0.61)*
R4	Fatty beef	½ French fries + ½ broccoli	Sugary soft drink	4.23±0.38*	0.61 (0.60-0.63)*	1.06 (1.03-1.09)
R5	Fatty beef	French fries	Freshly made strawberry juice	5.58±0.13*	0.47 (0.46-0.48)*	0.89 (0.88-0.90)*

WD: Western Diet meal model

The beef (both fatty and lean) were roasted in all meals; Mackerel was also roasted; Chickpeas were canned; Broccoli were boiled.

Extra vegetable oil and olive oil were added R2 and R3, respectively.

In each column, * indicate statistical significant differences ($p < 0.05$) with WD

AI: Atherogenicity Index = $(C12:0 + 4x C14:0 + C16:0) / (n-6 PUFA + n-3 PUFA + MUFA)$

TI: Thrombogenicity Index = $(C14:0 + C16:0 + C18:0) / [0.5 MUFA + 0.5 n-6 PUFA + 3 n-3 PUFA + (n-3 PUFA/n-6 PUFA)]$