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## Comparing the nutritional composition and quality of plant-based foods. A cross-market study

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**Background:** The growing demand for healthier, sustainable, and eco-friendly foods has led to the rise of plant-based processed foods (PBF). Although plant-based diets are regarded as healthful, the prevalence of these products in processed/ultra-processed forms raises concerns about their nutritional quality and potential adverse health effects. This study assessed the nutritional composition and quality of PBF in the Portuguese market (PTm), by comparing their nutritional profiles with established reference values (RVs), as well as with animal-origin foods (AOF) from PTm, and equivalent products from the UK market (UKm). The goal is to contribute to the promotion of healthier food choices, and provide insights to inform public health policies.

**Methods:** Collection and comparison of the nutritional data of PBF and AOF in PTm and UKm. These were compared within and between markets, as well as with the RVs of Integrated Strategy for the Promotion of Healthy Eating (EIPAS) and of Directorate-General of Health Label Decoder (DGS-LB).

**Results:** A total of 1170 PBF and 2452 AOF were analysed. 92.9% PBF in PTm, and 95.4% in UKm exceeded EIPAS RVs for sugars and salt when jointly evaluated. PBF often had higher energy, carbohydrates, and fibre but lower levels of fat, saturates and protein than AOF. According to the DGS-LB, 17.7%, 18.1%, and 29.0% of PBF in PTm, and 18.4%, 22.6%, and 26.7% in UKm had high levels of fat, saturates, and salt, respectively.

**Conclusions:** Nutritional variability was observed across multiples parameters within and between food categories, product types and markets. While some PBF had lower fat and saturates than AOF, many showed higher energy, carbohydrates and salt, with the majority failing to meet EIPAS RVs. These findings reinforce the need of public health policies and consumer awareness initiatives regarding PBF, including measures on food (re)formulation, labeling, taxation of unhealthy products, potential marketing restrictions, and food literacy.

### Key messages:

- PBF have highly variable nutritional composition and quality. Some offer better profiles than AOF, but many are high in fat, sugars, and salt.
- Consumer awareness and regulatory actions are needed to promote healthier food choices.