



## **The holistico-reductionist Siga classification according to the degree of processing : A tool for thinking, optimizing food for health.**

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Between 2010 and 2019, more than 40 epidemiologic studies found positive associations between excess consumption of ultra-processed foods and the development of chronic diseases (obesity, hypertension, cardiovascular disease, altered microbiota, all-cause mortality, weight gain, metabolic syndrome...). The qualitative NOVA classification of foods according to their degree of processing is widely used worldwide by researchers, and also recognized by several international institutions (FAO, WHO, UNICEF, PAHO...). NOVA defines ultra-processed foods (UPFs) by the presence of processed industrial ingredients and/or additives to modify the sensory properties (aroma, taste, colour and texture) of the reconstituted foods, called 'cosmetic' compounds since modifying the appearance of foods. Some drastic processes directly applied to food are also markers of ultra-processing (MUPs). However, in the intent to develop an elaborated tool for manufacturers, retailers and communities the Siga classification was developed by combining the four holistic NOVA groups with four new more reductionist subgroups considering the impact of processing on the food/ingredient matrix; the contents of added salt, sugar and fat; the nature, number and potential health risk of MUPs. How can Siga tools be used to improve the quality of the food offered to consumers? Concrete cases will be developed. For example, analysis of 24,000 packaged foods representative of the food supply in the supermarket with regard to the degree of processing show that 67% are UPFs. The same methodology was used to detect UPFs and improve the food supply for school meals and industrials products. Finally, our results also show that is not sufficient to rely only on additives or nutritional data to tackle ultra processed food issue and evaluate the overall food health potential.