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Consumer perception of sugar-reduced orange/pomegranate juices

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Changes in the formulation of traditional food products can be one of the most effective strategies to reduce sugar intake and attend to WHO recommendations. Information about product reformulation can negatively affect consumer hedonic expectations as a negative relationship between tastiness and healthfulness does exist. In this context, the aim of the present study was to investigate the effect of information about sugar reduction and the use of sweeteners on consumer wanting, hedonic and sensory perception, using orange/pomegranate juices as case study.

Samples of orange/pomegranate with different sweeteners (no added sugar, sugar, sucralose, stevia and monk fruit extract) were evaluated by 206 consumers under blind or informed conditions, following a between-subjects experimental design. Consumers in the informed group were presented the juice samples with their corresponding bottle displayed on a computer screen, including information about sugar content using the traffic-light system and claims on the sugar content (no claim, no added sugar or sweetened with natural sweeteners). Consumers had to evaluate their overall liking, wanting and to answer a CATA questions composed of sensory terms.

Samples sweetened with sugar and sucralose received the highest overall liking and wanting scores in both evaluation conditions, whereas the sample without added sugar or sweeteners showed the lowest scores. On average, overall liking scores were higher in the informed condition compared to the blind condition (5.0 vs. 4.8), as were wanting scores (4.8 vs. 4.5, respectively). However, the interaction between evaluation condition and samples was not significant for both, overall liking ($p=0.23$) and wanting scores ($p=0.50$). Information did not largely modify sensory descriptions; evaluation condition only influenced frequency of use of the term *residual taste*. Results showed that information about sugar-reduction did not have a large influence on consumer hedonic and sensory perception of sugar-reduced orange/pomegranate juices.

Keywords: sweetener, beverage, CATA, wanting