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B-070 - Prospective Association Between Cancer Risk And An Individual Dietary Index Based On The British Food Standards Agency Nutrient Profiling System

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Purpose:
The Food Standards Agency Nutrient Profiling System (FSA-NPS) constitutes the basis for the Five-Colour Nutrition Label suggested in France to be put on the front-of-pack of food products. At the individual level, a dietary index (FSA-NPS DI) has been derived and validated and corresponds to a weighted mean of all FSA-NPS scores of foods usually consumed by the individual, reflecting the nutritional quality of his/her diet. Our aim was to investigate the association between the FSA-NPS DI and cancer risk in a large cohort.

Methods: This prospective study included 6435 participants to the SUpplémentation en VItamines et Minéraux AntioXydants cohort (1994–2007) who completed at least six 24h dietary records during the first 2y of follow-up (median follow-up: 12.6y). FSA-NPS DI was computed for each subject (higher values representing lower nutritional quality of the diet). 453 incident cancers were diagnosed. Associations were characterized by multivariate Cox proportional hazards models.

Results:
The FSA-NPS DI was directly associated with overall cancer risk (HR1-point increment=1.08 (1.01-1.15), P-trend=0.02; $HR_{Q5vs.Q1}$=1.34 (1.00-1.81), P-trend=0.03). This association tended to be more specifically observed in subjects with moderate energy intake (≤median, $HR_{1\text{-point increment}}$=1.10 (1.01-1.20), P-trend=0.03). No association was observed in subjects with higher energy intake (P-trend=0.3). Results were not statistically significant for breast and prostate cancer risks.

Conclusions:
For the first time, this study investigated the prospective association between the FSA-NPS individual score and cancer risk. The results suggest that unhealthy food choices may be associated with a 34% increase in overall cancer risk, supporting the public health relevance of developing front-of-pack nutrition labels based on this score.
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