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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 (HR<sub>1-point increment</sub>=1.08 (1.01-1.15), P-trend=0.02; HR<sub>Q5vs.Q1</sub>=1.34 (1.00-1.81), P-trend=0.03). This association tended to be more specifically observed in subjects with moderate energy intake ( $\leq$ median, HR<sub>1-point increment</sub>=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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