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Adherence to the new French dietary guidelines and risk of overweight and obesity

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Abstract

Introduction

The new score of adherence to the 2017 French food-based dietary guidelines (PNNS-GS2) has previously been validated. Overweight and obesity being major risk factors for morbidity and mortality and highly related to diet, this study therefore aimed to study their prospective association with PNNS-GS2. A secondary objective was to compare these results to those obtained with PNNS-GS, reflecting 2001 recommendations.

Material and methods

The sample included French adults recruited in the prospective NutriNet-Santé cohort (N = 31,804 and 42,471 for overweight and obesity analyses respectively). The PNNS-GS and the PNNS-GS2 were calculated from repeated 24-hour dietary records collected during the first 2 years of follow-up, and weights were recorded after them in various questionnaires (N = 7.7 weight values on average, SD = 2.3). The association between the scores (as continuous and in quintiles, Q) and the risk of overweight or obesity was modelled by a Cox regression. Events were defined as having a BMI higher than 25 or 30, for overweight and obesity respectively. Comparison to the association with the PNNS-GS was performed using the mPNNS-GS, a modified PNNS-GS without the "physical activity" component. Models were adjusted for age (time scale), gender, size, energy intake, physical activity, socio-professional category, smoking, cohabitation, monthly income and alcohol consumption

Results and Statistical Analysis

Mean scores were 2.2 (SD = 3.2) for PNNS-GS2 and 8.2 (SD = 1.6) for the mPNNS-GS in the "overweight" sample, and 1.9 (SD = 3.3) for the PNNS-GS2 and 8.2 (SD = 1.6) for mPNNS-GS in the "obesity" sample. In our cohort, PNNS-GS2 was significantly associated with the risk obesity, both in quintiles (HR_{Q5vsQ1} [95%IC] = 0.43 [0.36–0.51]), with a very linear pattern across quintiles (p for trend < 0.0001), and continuously ($HR_{1\ point\ of\ PNNS-GS2}$ [95%IC] = 0.90 [0.88–0.92]). Results were very similar for overweight. On the other hand, mPNNS-GS associations were not significant, whatever the outcome.

Conclusion

The strong association of PNNS-GS2 with the risk of overweight and obesity reinforces its construct validity. Its apparent superiority over the mPNNS-GS contributes to the relevance of the 2017 dietary guidelines.

Conflict of Interest

There is no conflict of interest