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Newsletter

NuTWInd

The NuTWInd Project : Nutrition Transition in French West Indies

*The **NuTWInd** project is a research project funded by the French Research Agency. Its main objective is to elucidate the relationships between characteristics of local food supply and dietary behaviours of populations and to propose strategies to improve nutrition security in the French West Indies.*

*The **NuTWInd** consortium is composed of 5 highly-experienced research teams, a food technical institute and the French Ministry of Agriculture. The approach is multi-disciplinary, with experts in epidemiology, economics, nutrition, sensory sciences, sociology.*

The goal of this newsletter is to present the work in progress.

Content

Partners involved in the project:
MOISA –INRAE,CIRAD
ALISS-INRAE
CSGA-INRAE
DAAF Guadeloupe
DAAF Martinique
PARM (Pole Agroalimentaire Région Martinique)
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Demographic and socioeconomic shifts partly explain the nutrition transition in Martinique

Previous work in the NuTWInd project suggests an advanced but still ongoing nutrition transition. To further characterize this nutrition transition, we studied changes in food consumption and nutritional status, based on two cross-sectional surveys, Escal, conducted in 2003 with a representative sample of 743 Martinican adults, and Kannari, conducted in 2013 with a representative sample of 573 Martinican adults, using similar methodology and tools.

Demographic, social and economic shifts are major determinants of nutrition transition. Between 2003 and 2013, such shifts have taken place in the French West Indies, especially a rapid and massive ageing of the population and an increase in the education level. But other shifts, such as a change in the food environment, are also important determinants of nutrition transition.

We therefore measured the share of changes in health status, nutritional and dietary intake among adults in Martinique over 10 years that is explained by shifts in demographic and socio-economic characteristics (DSEC) observed in the population and the part caused by unobserved shifts.

Changes in health status, dietary and nutritional intakes were decomposed using the Oaxaca-Blinder twofold decomposition method [1,2] into two effects: a 'explained' part due to differences in the observed DSEC distribution means between 2003 and 2013, and an 'unexplained' part, which cannot be explained by these differences. This 'unexplained' part can be attributed to shifts in unobserved factors, but it also includes the effect of shifts in the association between the observed DSEC and the variable under study.

The overall diet quality was assessed using the simplified version of the Programme National Nutrition Santé-Guideline Score2 (sPNNS-GS2), reflecting the adequacy to the 2017 French dietary recommendations [3], the *mean adequacy ratio* (MAR), corresponding to the mean percentage of the daily recommended intakes for 23 key nutrients, and *mean excess ratio* (MER), corresponding to the mean percentage of the daily maximum recommended value for nutrients whose intake should be limited (sodium, saturated fatty acids, and free sugars) [4]. Finally, we estimated the percentage of energy intake provided by the ultra-processed food (UPF) group using the NOVA classification [5].

A lower percentage of people aged 16-45 was observed in the Kannari survey than in the Escal survey, as well as a lower percentage of participants with a low education level and fewer participants living with children.

Our analysis shows that in Martinique, between 2003 and 2013, health status deteriorated, with an increase in BMI (+1.2 kg/m²), hypertension prevalence (+13 percentage points (pp)) and waist circumference (+3 cm). Also, diet quality decreased (sPNNS-GS2 -0.5 points, MAR -2 pp and MER +2 pp) and energy supplied by UPF increased (+4 pp).

Changes in the distribution of DSEC, including an ageing population and increasing education level, explained about half of the deterioration in health status (62% of the change in prevalence of hypertension and 48% of the change in waist circumference) but marginally explained the changes in nutritional and dietary intakes.

The explained changes were most often of opposite sign to the unexplained ones, which were a decrease in diet quality and traditional food intake, and an increase in 'modern' food intake and UPF energy.

This highlights an ongoing nutrition transition in Martinique, of which key drivers are unobserved factors in our models, certainly including the expansion of supermarkets or the increase in food prices over this decade.

References

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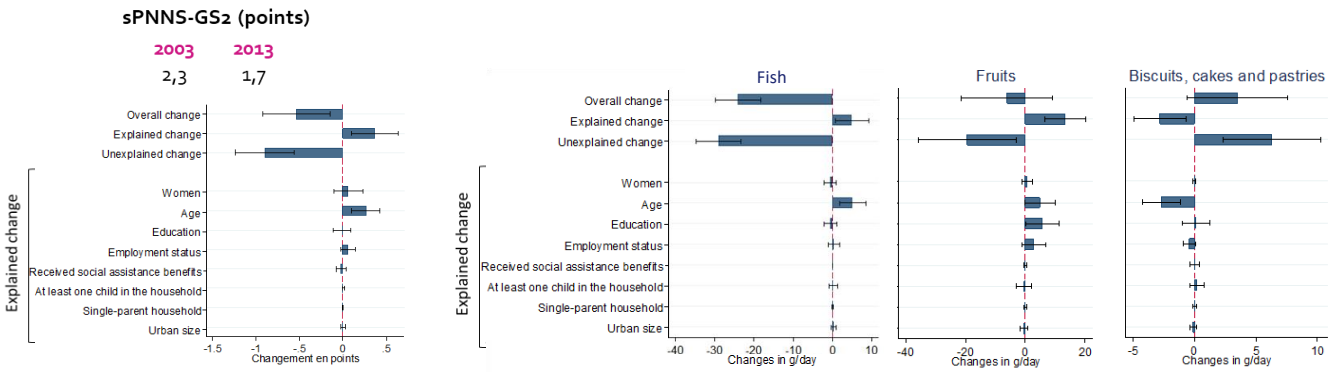

Figure 1. *Changes in diet quality (sPNNS-GS2) and intakes of fish, fruits and biscuits, cakes and pastries in Martinican subjects (≥16 y) between 2003 (n=743) and 2013 (n=573), decomposed by an Oaxaca-Blinder decomposition method*