

The NuTWInd Project : Nutrition Transition in French West Indies

Content

Socioeconomic disparities of diet quality in French West Indies

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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.

Socioeconomic disparities of diet quality in French West Indies

In the Caribbean and particularly in French West Indies, high prevalence of obesity and chronic diseases coexist with high rates of poverty (1-3). To identify the mechanisms leading to social inequalities in health, studies on the influence of different socioeconomic indicators on the diet quality are needed. Indeed, some previous works found that the different socio-economic indicators are not interchangeable and can have a cumulative effect on diet quality (4). We therefore studied the independent associations between each socioeconomic indicator and diet quality in French West Indies.

Our study was based on cross-sectional study conducted in in 2014 among 1144 Martinican and Guadeloupean adults.

From 24h recalls, we estimated the diet quality using the Diet Quality Index International (DQI-I) [0 to 100 points] that takes into account several dimensions of diet quality (diversity, adequacy, moderation and balance).

Associations between diet quality scores and socioeconomic indicators (education, employment status, recipient of social assistance benefits, household with children, single-parent household) were assessed using multivariate linear regressions, adjusted for demographic factors.

The mean PNNS score was 7.5 points [4 to 10.5 points] and the DQI-I was 60.8 points [39 to 82 points]. Participants with a level of education equivalent to the bachelor's degree had a lower PNNS score than higher educated persons (7.3 (SEM: 0.2) vs. 7.7 points (SEM: 0.05 p = 0.01) but no significant difference was found with participants with primary or secondary education.

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Those who were unemployed or never employed had a lower DQI-I than employed persons (60.6 (SEM: 0.7) vs. 62.5 points (SEM: 0.4) $p = 0.02$). No significant association between other socioeconomic indicators and diet quality scores was found.

In this study, few socioeconomic differences in diet quality were observed, probably due to under-representation of the most disadvantaged populations. Identifying the population groups at higher risk of unhealthy diet is needed in the French West Indies to better target public health actions.

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Studying the dynamics of the evolution of the global food supply in the French West Indies in terms of nutritional quality involves analyzing the evolution of the food imports of these two islands (2-4). To this end, we use customs data on Guadeloupe and Martinique food imports, by volume, value and country of origin at the 8 digit level of the combined nomenclature (a), from 1995 to 2016.

Preliminary results of our analysis show that in Guadeloupe, food imports which amounted to 272 000 tons in 2016, increased by 3.7 % over the period of study. In value terms (current), these imports increased by 60 %, with more than 458 million euros of products imported in 2016. However, if we take into account the variation of the consumer price index, we note that the increase of the imports value in constant terms (b) was lower, equal to 15 %.

During the same period of time, food imports in Martinique increased by 15.7 % in volume terms, with more than 243 000 tons of products imported in 2016.

The amount of the imports in value terms (current) was superior to 429 million euros in 2016, following a global increase of 58.3 % since 1995. The increase in constant terms was equal to 14 %.

Taking into account the demographic changes, we observe that over the period of study, per-capita food imports decreased by 3 % in Guadeloupe. In Martinique, we observe on the contrary, a global increase of 13.6 %. In constant value terms, per-capita food imports increased by 8 and 12 % in Guadeloupe and Martinique, respectively.

The panel of countries of origin of food imports shipped to the French West Indies is diverse, their number being superior to 80. However, Metropolitan France has been since 1995 the main partner of the two islands. Indeed, imports coming from Metropolitan France account for more than 70 % of total imports (in volume and value terms) of the French West Indies.

Our analysis can be refined using the food classification according to the degree of processing, also known as NOVA, developed by Monteiro et al. (2018). Since 1995, foods belonging to group 1 “Unprocessed or minimally processed” have accounted for the most important share of the total amount of imported food. The next group in terms of volume and value of imports is that of “Ultra-processed” foods. In 2016 imports belonging to this category were 2.4 and 2.7 times lower than imports of unprocessed or minimally processed foods in Guadeloupe and Martinique, respectively. The difference between these two categories is much less important in value terms (graphs 1 and 2). It is however necessary to deepen our analysis by examining the evolution of each of these groups in order to identify and quantify the impact of the determinants of the imports structure on their nutritional quality.

Notes :

- Our databases on the Guadeloupe and Martinique food imports cover chapters 1 (Live animals) to 22 (Beverages, spirits and vinegar) of the combined nomenclature.
- To obtain current values, we use the harmonized consumer price index: *IPCH annuel – Ensemble des ménages – France entière – Base 2005 – Nomenclature européenne : Produits alimentaires et boissons non alcoolisées* (source : INSEE).

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