

Diet quality, food choices and food policy and its economic studies

Volume 13 Issue 2 - 2024

Aline Veroneze de Mello Cesar,¹ Hellen Daniela de Sousa Coelho¹¹Doutora em Saúde Pública pela Universidade de São Paulo, Professora do curso de nutrição da Universidade Paulista (UNIP), São Paulo, SP, Brasil**Correspondence:** Hellen Daniela de Sousa Coelho, PhD in Public Health from the University of São Paulo, Professor of the nutrition course at Universidade Paulista (UNIP), São Paulo, SP, Brazil, Tel +5511996033830, Email hcnutr@gmail.com**Received:** March 01, 2024 | **Published:** May 13, 2024

Communication: Public health nutrition studies should consider incorporating the use of food prices and dietary costs into analyses.

Many efforts have been concentrated on providing parameters, guidelines, and dietary recommendations focused on healthy eating habits. However, we are facing a public health problem, the so-called global syndemic accompanied by poor diets that still seem to fall short of recommendations.^{1,2} In this way, the relationship between nutrition (what food people buy and their eating habits) and economics (food prices and diet costs, for instance) is undeniable, both in the individual and the social sphere.^{3,4} Prices are one of the main determinants in the causal pathway between socioeconomic status and diet quality; thus, they are particularly important for nutrition in public health studies.^{1,3,4}

Research about cost of diets is not straightforward, because of issues, like: dietary data from national surveillance or epidemiological individual-level surveys often do not collect and include a specific section about food prices paid or expenditures; population-level consumption data are not disaggregated and sales data poorly reveal about individual behaviour change.⁵ The solution is to use ready-made databases or even market research for the current food prices. The best alternative would be having this information in the surveys. However, this is not always possible, the questionnaire would take more time to be completed due to substantial increase in the number of questions, and, consequently, the cost of the survey, besides the engagement of the participant.

We have a relevant alternative, in a recent methodological study in Latin America, which used the Brazilian Household Budget Survey as data pairing model, in order to extract food prices.⁶ Robustness and greater correspondence between databases were ensured for the most reliable possible model considering data matching on the key pairing criteria (location/year/household income per capita/number of residents/family profile). The matching process between databases was based on a set of criteria for matching the prices of food items obtained from the Brazilian Household Budget Survey in relation to the foods consumed by the individuals interviewed in the “*Inquérito de Saúde de São Paulo*” (ISA-Capital). Correction factors and appropriate cooking indices were applied to each food consumed to obtain the prices per gram of food in the form of final consumption recorded in the 24-hour dietary recall (24HR). Prices were converted into whole raw food based on the quantity purchased (in grams or milliliters). Finally, the direct cost per calorie of each individual’s diet was calculated from the prices per gram (in Reais, R\$) and quantities of food consumed, updated for the reference period (July 2020), using the Broad Consumer Price Index and Purchasing Power Parity (PPP) conversion factors for Brazil, both for each of the food items and for income, available on the World Bank website. With these information linked we can start the studies, but with attention to the following paragraphs.

The economic studies revealed to be established in three major groups, with emphasis on: consumer food choices; dietary

improvements, recommendations and public policy development; and economic studies of dietary quality. It is remarkable that for economic evaluation of nutrition interventions and policy makers, studies should include robust methodological features and strategies to foster their use, reach feasible conclusions, and improve statistical models.³

We must select the central point of our studies based on these study topics. Once established, first, we must appropriate the metrics of comparison, i.e., mass, portion, or energy.⁷ Prices/mass are indicated in studies of consumer choice: comparison between similar foods, two products that will serve the same purpose within their diet differ in price. Prices/portion is indicated in studies of food policy, dietary guidelines, and recommendations: comparison of prices in the context of direct substitutions of one food for another. Prices/energy are indicated in studies of dietary quality: comparison of prices in the context of public health and food security.⁷

Second, once the comparison metric is chosen, you shall recall that the price of food mass is calculated excluding the parts of the food that are actually eaten, since shells, seeds, bones are usually discarded. For this purpose, use properly the established correction and cooking factors for the food where applicable.^{7,8}

Third, be aware that when using a database from a different year than the one of your study, it will be necessary to escalate the prices of each food item, as well as the income, considering the CPI, which corrects the values for inflation and shows the changes.⁹ Remember that each country has its own CPI. Purchasing Power Parity (PPP) is important considering the possibility of comparison on the diet costs across international studies. Perform the conversion of the monetary values from the local currency unit (in the case of Brazil, Brazilian reais, R\$) to the international currency unit in PPP, i.e., the International Monetary Units (IMUs).⁶

The fourth point is comparability, for this we use purchasing power parity, which is an exchange rate responsible for prices equalization of identical goods (or baskets of goods) in different countries.¹⁰

The expansion of public health nutrition research on economic issues can benefit society by defining and implementing public policies, as well as at the individual level by guiding better choices. The recommendation for the use of price information in nutrition studies of dietary quality, consumer food choices and food policy should be based on the choice of the most appropriate metric of comparison, the use of correction and cooking factors where applicable, in addition to CPI and PPP. We can extend potential benefits to discussions within the academic community, as is the case in undergraduate nutrition and public health courses, which mostly if not almost all do not include courses and discussions about perspectives related to food and nutrition in the economic context.

Acknowledgments

None.

Conflicts of interest

The authors declare there is no conflict of interest.

References

1. Darmon N, Drewnowski A. Contribution of food prices and diet cost to socioeconomic disparities in diet quality and health: a systematic review and analysis. *Nutrition Reviews*. 2015;73(10):643–660.
2. Swinburn BA, Kraak VI, Allender S, et al. The Global syndemic of obesity, undernutrition, and climate change: the lancet commission report. *Lancet (London, England)*. 2019;393(10173):791–846.
3. Gyles CL, Lenoir-Wijnkoop I, Carlberg JG, et al. Health economics and nutrition: a review of published evidence. *Nutrition Reviews*. 2012;70(12):693–708.
4. Rao M, Afshin A, Singh G, et al. Do healthier foods and diet patterns cost more than less healthy options? A systematic review and meta-analysis. *BMJ Open*. 2013;3(12):e004277.
5. World Health Organization et al. *Using price policies to promote healthier diets*. World Health Organization. Regional Office for Europe, 2015.
6. Mello AV, Sarti FM, Fisberg RM. How to Estimate food prices and diet costs in population-based studies? *Frontiers in Nutrition*. 2021;8:728553.
7. Jones NR, Monsivais P. Comparing prices for food and diet research: the metric matters. *Journal of Hunger & Environmental Nutrition*. 2016;11(3):370–381.
8. Carlson A, Frazão E. Are healthy foods really more expensive? It depends on how you measure the price. It depends on how you measure the price. *USDA-ERS Economic Information Bulletin*. 2012;96: p 50.
9. Bai Y, Costlow L, Ebel A, et al. Retail consumer price data reveal gaps and opportunities to monitor food systems for nutrition. *Food Policy*. 2021;104:102148.
10. Vo HL, Vo DH. The purchasing power parity and exchange-rate economics half a century on. *Journal of Economic Surveys*. 2023;37(2):446–479.