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Medicina Preventiva
FMUSP

Trends in the environmental impacts of unprocessed or minimally processed, processed, and ultra-processed animal products in Brazil over 30 years

Jacqueline Tereza da Silva, Alana Kluczkovski, Ximena Schmidt, Angelina Frankowska, Gabriela Lopes da Cruz, Carla Adriano Martins, Maria Laura Louzada, Fernanda Rauber, Christian Reynolds, Sarah Bridle, Renata Bertazzi Levy



The
University
Of
Sheffield.



BACKGROUND AND AIM



- The overconsumption of meat and other animal products is associated with increased burden of diseases and environmental impacts
- How are different levels of processing linked to this?
- We aim to assess the trends in the consumption of unprocessed or minimally processed, processed, and ultra-processed animal products, and the environmental impacts associated with them

METHODOLOGY



Brazilian Household Budget Survey (1987, 1996, 2003, 2009, 2017)

Animal products (beef, pork, poultry, eggs, fish, milk, and cheese)

NOVA system

- > unprocessed/minimally; processed;
- > processed foods;
- > ultra-processed

Share (%) kcal

Brazilian Food Composition Table

Environmental impacts

- > Garzillo 2019
- > GHGE, g CO₂ eq
- > Water footprint, litres
- > Ecological footprint, m²

p-for-trend: linear regression using the population size as a weighting factor

Table 1. The share (%) of unprocessed, processed, and ultra-processed animal products to daily calories from food purchases. Brazilian Metropolitan Areas, 1987-2017.

NOVA food group	1987	1996	2003	2009	2017	p-trend	change
Unprocessed/minimally processed	15.5 (0.3)	16.8 (0.6)	15 (0.4)	14.7 (0.3)	15.2 (0.3)	0.017	-2%
Processed	1.6 (0.1)	1.8 (0.2)	2 (0.1)	2.2 (0.1)	3 (0.2)	0.000	88%
Ultra-processed	1.1 (0.1)	2.1 (0.2)	3.4 (0.2)	3.9 (0.2)	4.3 (0.2)	0.000	291%

The values as presented as population-weighted mean (standard error)

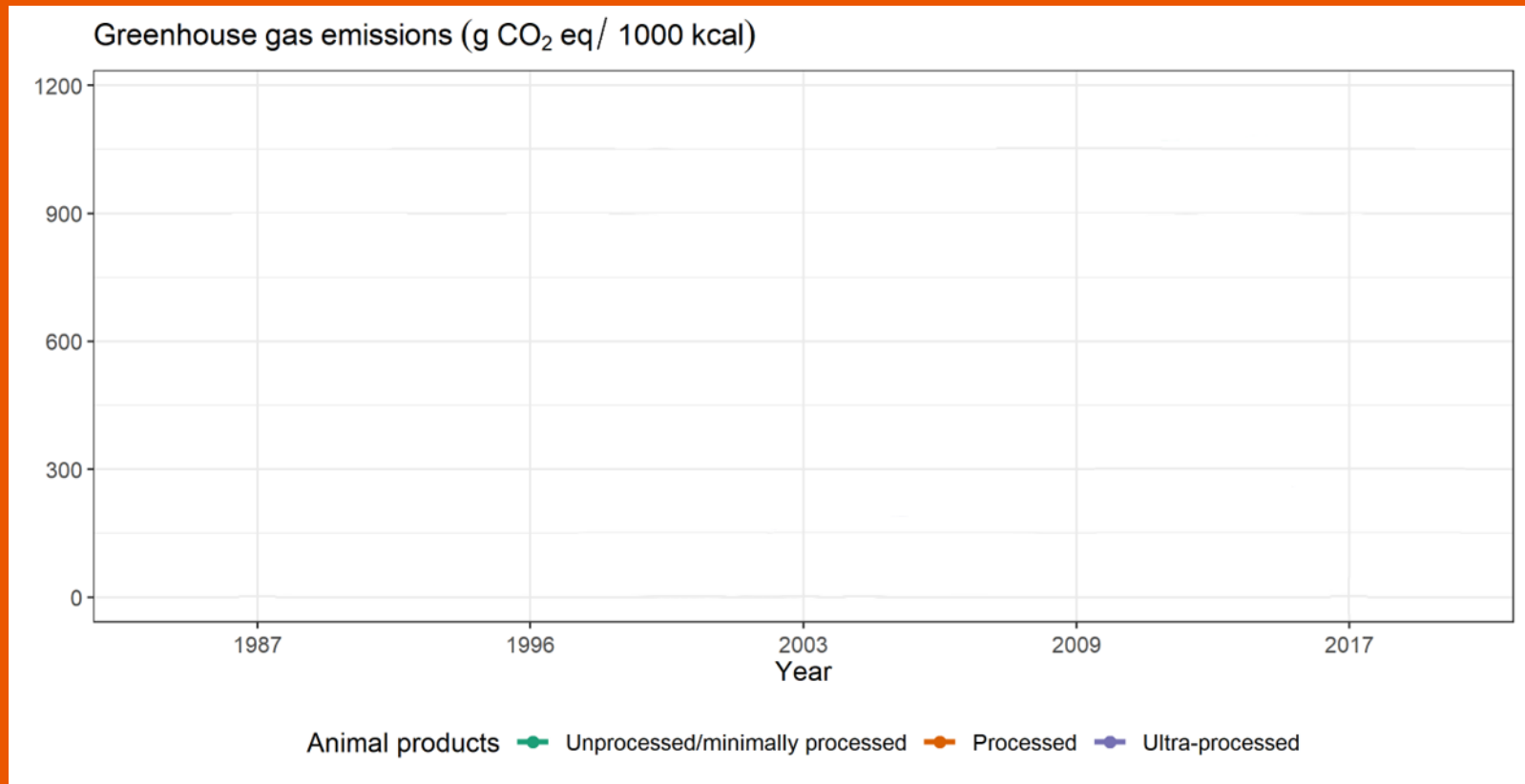


Figure 1. Greenhouse gas emissions per 1000 kcal of unprocessed, processed, and ultra-processed animal products. Brazilian metropolitan areas, 1987-2017.

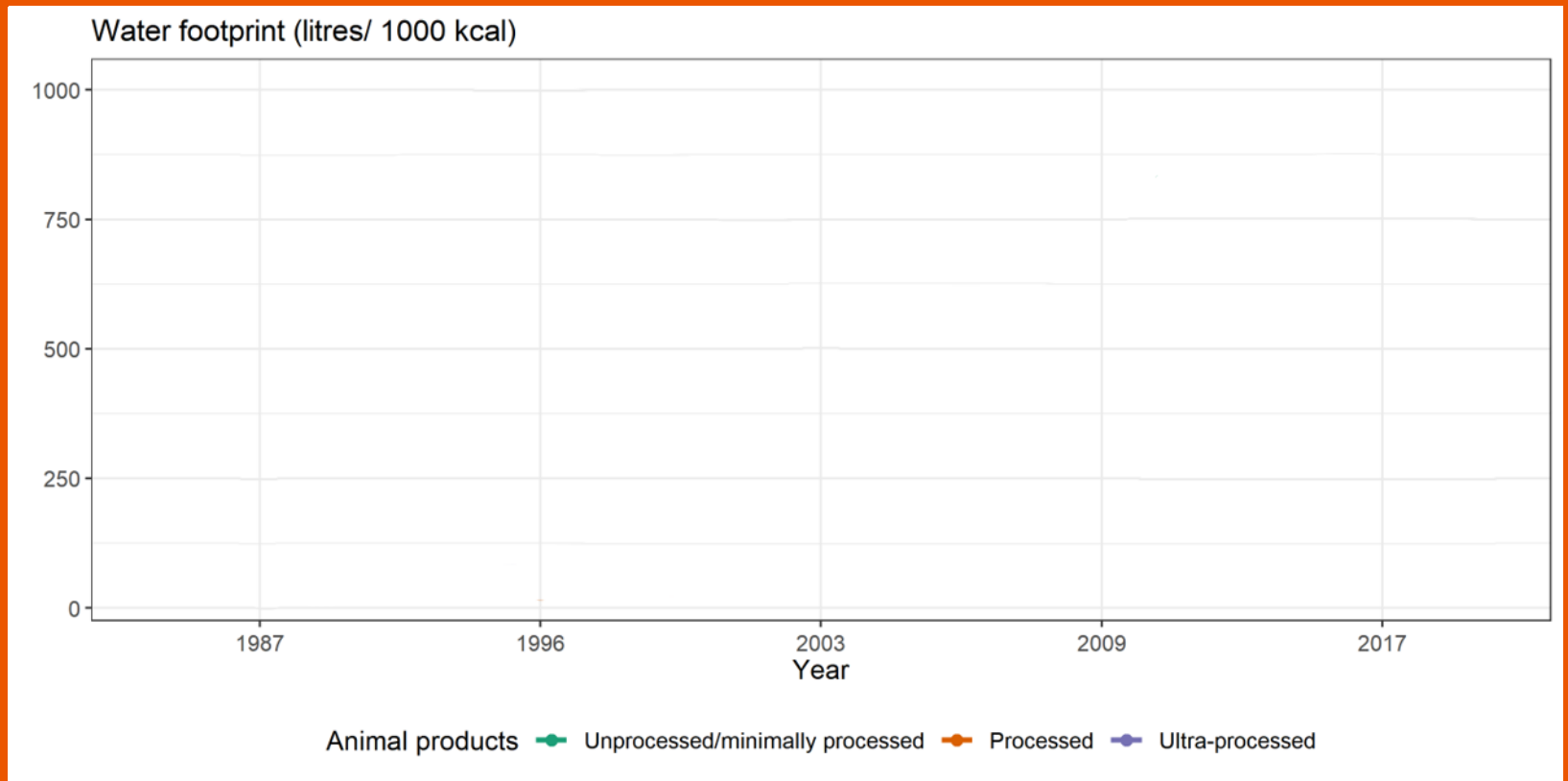


Figure 2. Water footprint per 1000 kcal of unprocessed, processed, and ultra-processed animal products. Brazilian metropolitan areas, 1987-2017.

Ecological footprint (m^2) / 1000 kcal

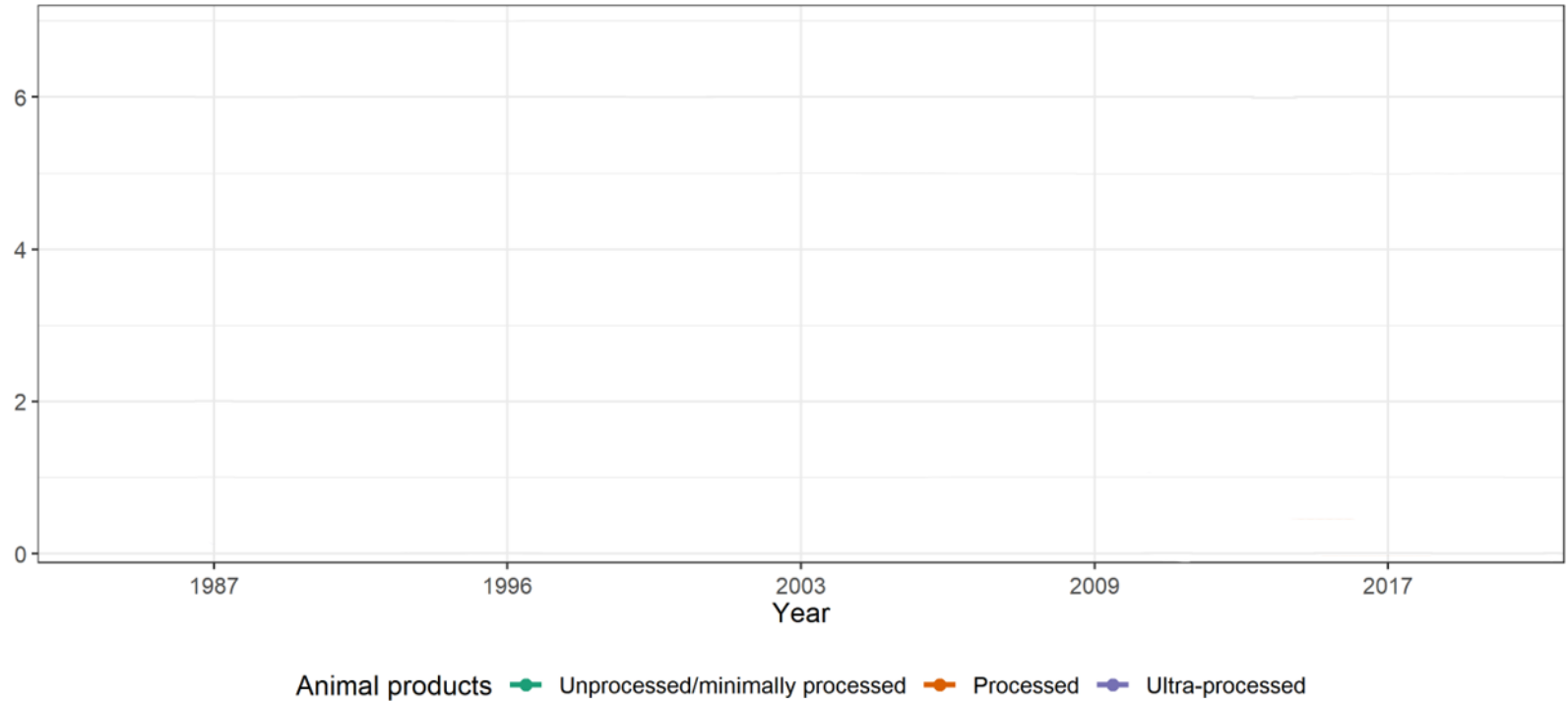


Figure 3. Ecological footprint per 1000 kcal of unprocessed, processed, and ultra-processed animal products. Brazilian metropolitan areas, 1987-2017.

CONCLUSION



- The consumption of processed and ultra-processed animal products has been increasing
- Consequently, the environmental impacts of these products are growing
- Action is needed to shift this growing trends

Obrigada / Thank you

Jacqueline Tereza da Silva
jacsnt@yahoo.com.br
Linkedin: silvajacq