OBESITY IN BRAZILIAN ADULTS AND ITS ASSOCIATION WITH LUNCH DIETARY PATTERN, SEX AND SCHOOLING

Valéria Troncoso Baltar, Ana Lorena Lima Ferreira, Bruna Kulik Hassan

Universidade Federal Fluminense, Niterói, Brazil

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All authors declare no conflict of interest

Background & objective

In Brazil:

- Lunch is the main meal, contains the highest energy intake of the day and it is the most consumed meal;

- Lunch provides the main nutrients among Brazilian adults;

- We aimed to investigate the association of lunch dietary patterns, sex and schooling with obesity among Brazilian Adults.
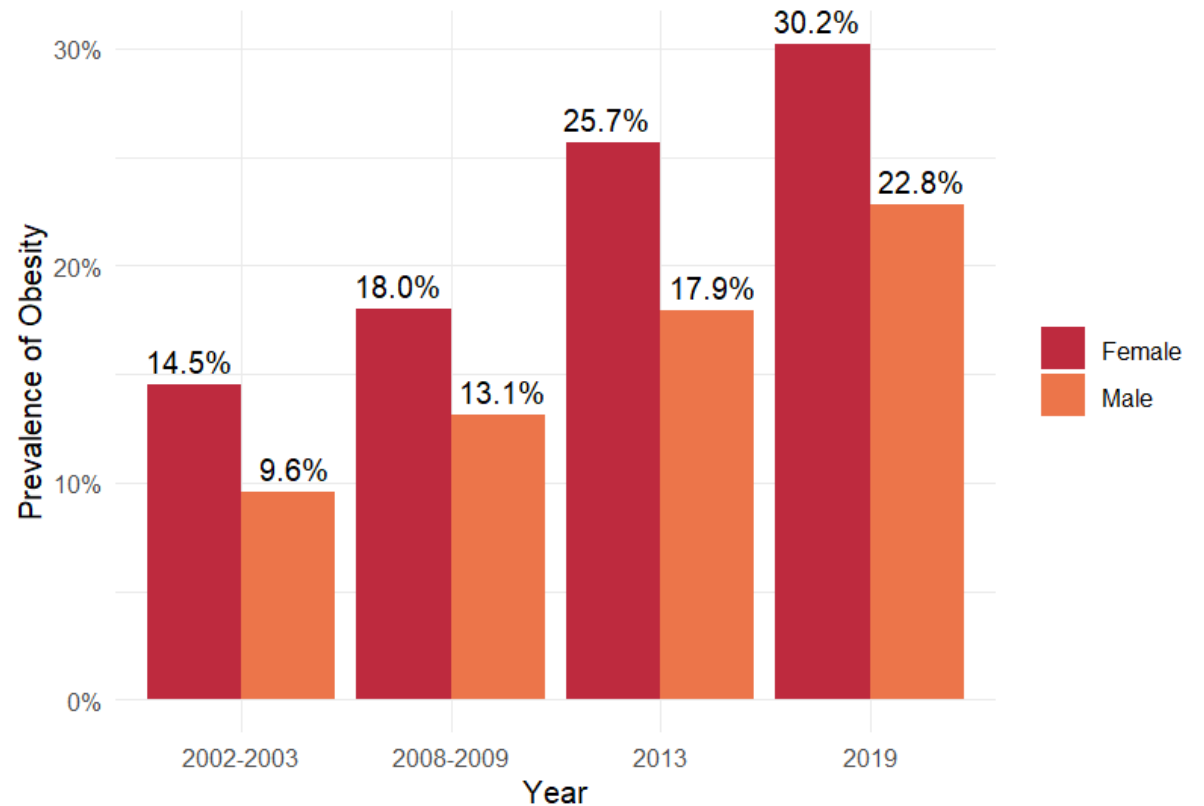

Figure 1: Prevalence of obesity in Brazilian Adults (IBGE, 2020)

Methods

- National Dietary Survey (2017–2018);
- 28,191 individuals aged 19-59 years (excluding pregnant and breastfeeding and 710 which did not consume any food item declared as lunch) ;
- Food items consumed at lunch reported in the first 24hR – classified into 14 groups;
- Lunch dietary patterns were derived by principal component factor analysis (Varimax rotation). The patterns scores were classified accordingly to terciles (lower, median, and higher adherence to the pattern).
- To access the association between obesity (BMI ≥30 kg/m²) with sex, schooling and the dietary patterns we applied logistic regression adjusted by age, region and total energy intake. All analysis considered the study design.
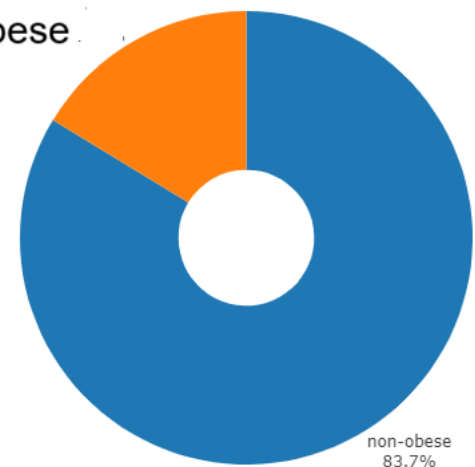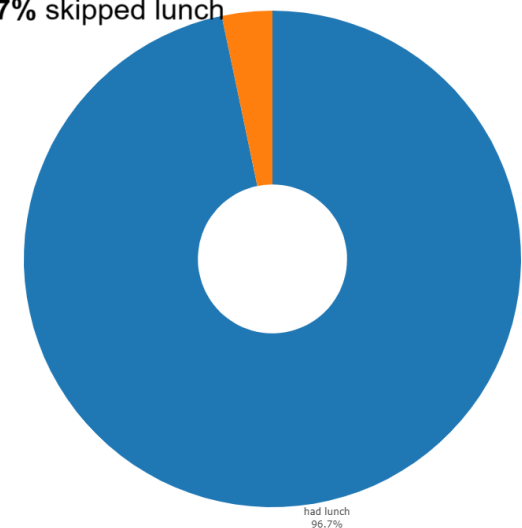
Results

Table 1. Factor loadings of dietary patterns obtained through factor analysis of lunch food consumption data of Brazilian adults, 2017-2018 National Dietary Survey

	Traditional Brazilian	Vegetable and red/proces sed meat	White meat and side dishes	Communality
Rice	0.73	-0.08	0.14	0.56
Beans	0.72	-0.08	0.10	0.53
Leafy greens	-0.04	0.66	0.15	0.45
Vegetables	0.06	0.41	-0.02	0.17
Roots and tubers	-0.01	0.18	-0.05	0.04
Fruits	-0.11	0.01	-0.05	0.01
Flours and pasta	-0.41	-0.16	0.05	0.20
White meat	-0.18	-0.31	0.42	0.30
Eggs	0.06	0.09	-0.03	0.01
Oil and fat	-0.11	0.78	0.15	0.64
Drinks	0.17	0.04	0.72	0.54
Soft drinks	-0.11	-0.02	-0.28	0.09
Sweets	0.01	0.05	0.62	0.39
Red/processed meat	0.39	0.26	-0.36	0.35
Accumulated Explained Variance	10.53%	20.91%	30.67%	-

16.3% obese

non-obese 83.7%

3.27% skipped lunch

had lunch 96.7%

Results

Dietary pattern	Traditional Brazilian	no effect			
	Vegetable and red/processed meat	Only for Male	p=0.0037	OR=1.32	high/medium
			p=0.0003	OR=1.40	high/low
	White meat and side dishes	no effect			
Schooling		Only for Male	p=0.0001	OR=1.50	<9/9+ years
Region		no effect			
Energy inatake		no effect			

- Male adults with higher adherence to the Vegetable and red/processed meat's lunch pattern had 40% higher chance of being obese in comparison to the lower adherence ones;

- Male with less than 9 years of schooling had 50% higher chance of being obese in comparison to those with higher schooling;

Conclusion

The Vegetable and Red/Processed meat lunch pattern mixed both healthy food and also fat and oil and red meat/processed meat. The unhealthy characteristics may be responsible for the direct association of that pattern to obesity among Brazilian male adults. Those patterns did not seem to influence obesity among women.

Thank you

vtbaltar@id.uff.br