

HOMEMADE vs COMMERCIAL INFANT FOOD: A NUTRITIONAL COMPARISON ON DIETARY FIBRE

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INTRODUCTION

The health benefits of fruit and vegetable consumption, from childhood onwards, are well-recognized. Fruits and vegetables are an important source of dietary fibre (DF). An adequate intake of DF has preventive effects for developing the non-communicable diseases. In adults, the DF adequate intake is straightforward; but in childhood, DF intake recommendations are only established above 12 months of age, 19 g/day (1.4 g/100 kcal)¹ and 2 g/MJ (0.8 g/100 kcal) by EFSA². However, in infants between 6 to 12 months of age, DF recommendations remain undefined. Still, Agostoni et al³, suggested a gradual increase of DF intake of 5 g/day during the second 6 months of life by introducing increasing amounts of fruits and vegetables.

Taking into account that complementary feeding is started at 4 to 6 months of age and fruits and vegetables are introduced by either homemade or commercial infant food, **we aimed to compare the DF content in homemade meals and fruit purees in comparison to commercial infant foods (CIFs).**

METHODS

In this observational study, 30 Spanish mothers completed a 3-day food record of their infants aged 7-18 months (11 ± 3.5 months) (Figure 1). Frozen samples of their homemade meals and fruit purées were collected in October 2014. Total DF was analysed following the methods described by Prosky et al⁴, and AOAC⁵. Spanish CIFs from the four main manufacturers were included to compare them with the homemade samples. DF content was obtained from information shown in the food labels and available on the manufactures' websites. Statistical analyses were performed using SPSS data software (v. 18.0). Independent t-test was carried out to compare the DF content in homemade vs. CIFs.

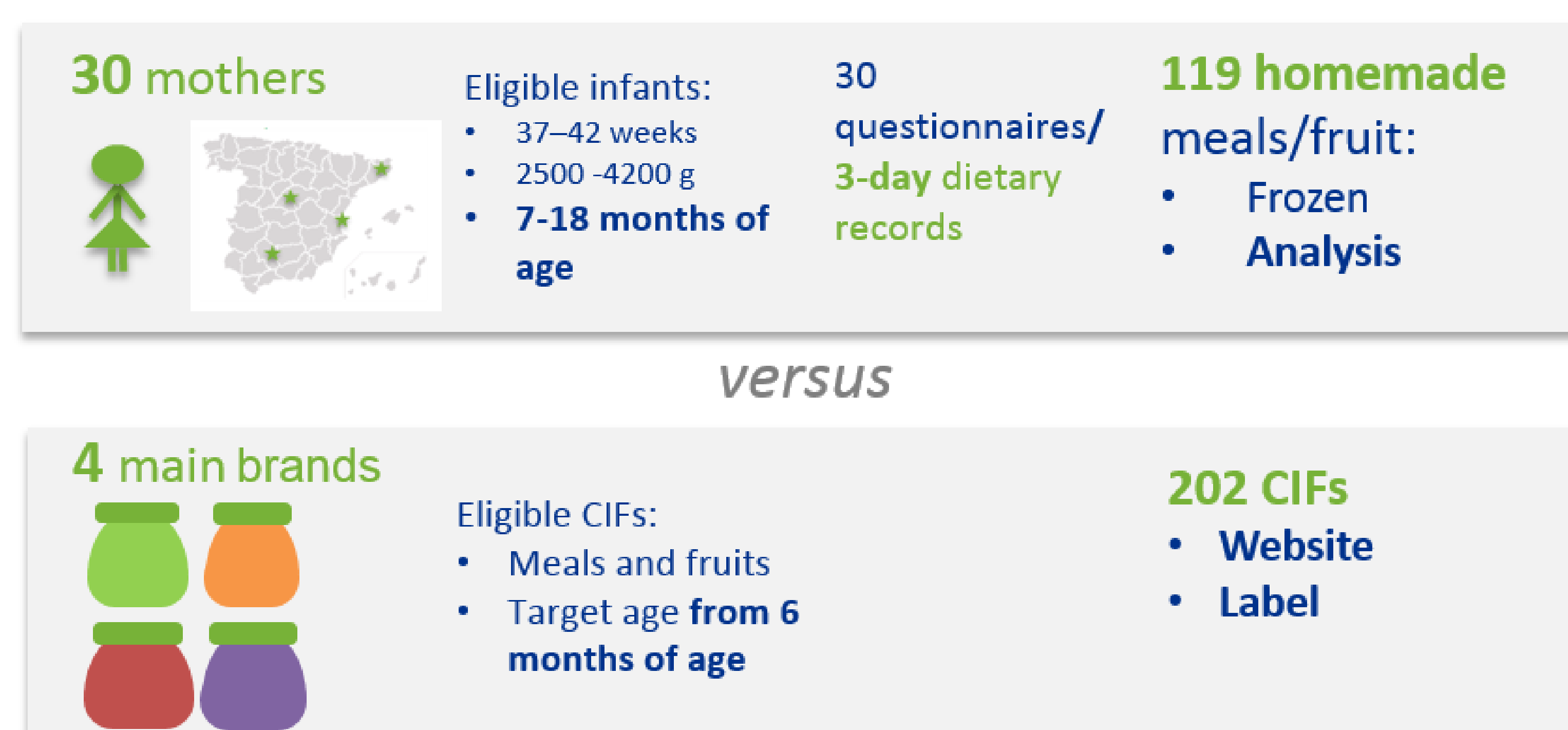


Figure 1. Diagram of methodology.

RESULTS

- A total of 119 homemade analysed samples (47 meat, 28 fish, 9 only veggies, and 35 fruit puree) and 202 Spanish CIFs (84 meat, 19 fish, 10 only veggies and 89 fruit puree) were compared for DF content (Figure 2)
- The DF content of homemade infant meals and fruit purée were significantly higher than DF content in CIFs (Table 1).
- There were not significant differences between the DF content from meals and fruit purees both homemade and CIFs.

Table 1. DF content (g/100 g) in homemade meals and fruit purées and CIFs. Data expressed in Mean ± SD.

Type of Product	Homemade	Commercial infant food	p values
Meals ¹	2.6 ± 0.6	0.8 ± 0.4	<0.001
Fruit purees	2.0 ± 0.3	1.3 ± 0.4	<0.001
Total	2.4 ± 0.6	1.1 ± 0.5	<0.001

¹Includes meat, fish and only veggies

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Disclosure of Interest

M.J. Bernal, J.F. Haro, L.M. Sanchez-Siles: Conflict with Hero Group. G. Ros, S. Roman: None Declared

CONCLUSION

- Our study showed that **infants fed with homemade meals and fruit purees are likely to have a higher intake of DF as compared to infants fed with CIFs.**
- Interestingly, both type and percentage of vegetables and fruit used in recipes were similar in homemade and commercial foods; therefore, the **differences observed could be due to several reasons:**
 - the use of fruit concentrate instead of purees in some products, as well as
 - the use of technological processes where the DF is partially removed.
- Also, it is important to take into account that even though we used many homemade samples, they came from 30 mothers, which may limit their generality.
- We believe that **there is an opportunity for infant food manufactures to mimic as closely as possible the naturally DF content of homemade recipes and therefore increase the DF content in the overall diet of infants.**

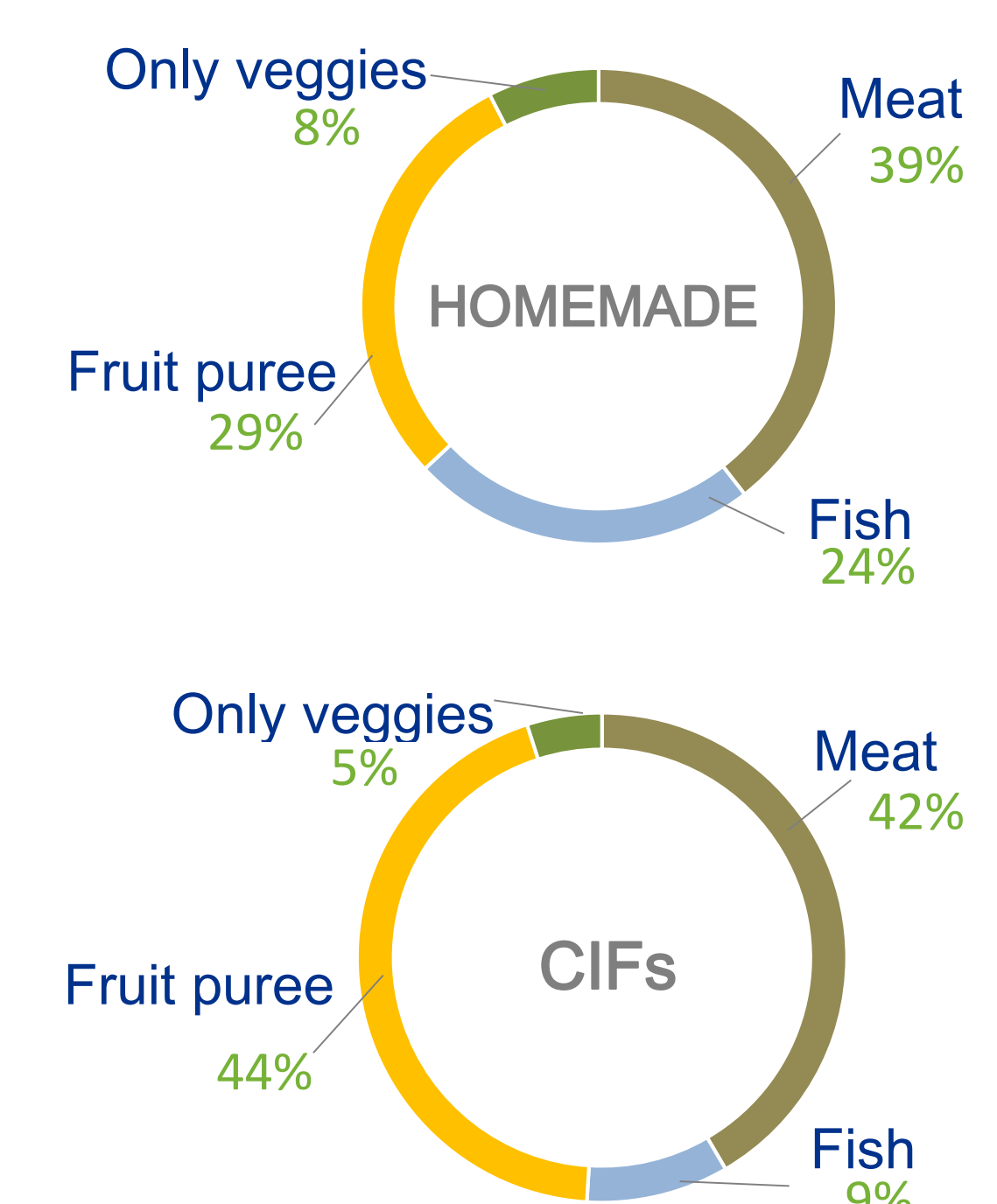


Figure 2. Distribution of different chosen meals according to homemade and CIFs