

Editorial

The three papers in this issue of the Ifava newsletter provide an interesting perspective on the dietary behaviour of university students and point to possible explanations and ways of improving health behaviours. The results in the first paper regarding a cohort of German students provide further evidence of the poor lifestyle habits already observed in European student surveys and national reports published in the last decade. Some points may be highlighted from this and the two following papers. Studies based on the university environment draw upon a short period of life; thus the number of studies is relatively limited. However, the results consistently demonstrate that university students are particularly vulnerable to poor health behaviours and should be taken seriously by public health authorities. It will be important to conduct studies on the impact of university-based interventions in terms of academic performance as well as health and dietary behaviours in later life. Furthermore, it will be essential to assess whether those traits identified amongst university students are transitory or persist beyond university life. Medical students appear to have comparatively (though slightly) better health behaviours, but whether these are linked to a stronger health consciousness or rather reflect other explanatory models deserves scrutiny. Clearly, food offered in university canteens is a part of the explanation of poor diets amongst students; improvement in the nutritional quality and price of the offered meals is a modest, but efficient way to lead to improvement. Finally, addressing the economic constraints of the student (and indeed the general) population, and making safe, healthy foods available and affordable to all must continue to be a priority, in part because disease prevention through good nutrition initiatives makes clear economic sense.

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Does the nutritional profile of food offered a canteen determine what is consumed?

A case study in Belgian university canteen

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Out of home eating has increased considerably during the last decade and has taken an important place in the habitual diet. Through higher energy densities or larger portion sizes frequent out of home eating is believed to be associated with higher energy intakes^{1,2}. The catering sector is increasingly being recognized as a stakeholder to promote healthy diets and lifestyles³. School canteens can contribute to an obesogenic environment⁴, but can also represent an opportunity to improve students' diet⁵. We evaluated the nutritional profile of the lunches available and compared it to that of the lunches consumed by university canteen customers⁶. The main findings are summarized here.

Methodology

This study was conducted in Ghent University in 2004. Canteen customers could choose from at least four protein components, including a fish and vegetarian option. The vegetable choices included two cooked vegetable portions and two types of salad. The starch component offered standard five choices: rice, cooked potato, mashed potato, fried potatoes and croquettes. Every fifth canteen visitor that took a hot lunch was invited to participate. A picture of the tray provided qualitative composition of food choices. Leftovers were weighed and the quantity of each food component served minus its leftovers was used to estimate the amount of food consumed. We used the technical files of the producers and Belgian food composition tables for nutritional information. We simulated what meal combinations were theoretically available by multiplying the number of sauces and protein, carbohydrate, vegetable choices on a particular day. In total 4365 theoretical meals were obtained. The nutritional quality of the meal offered was appraised using a scoring system. One point was given if the meal complied with one of the following

recommendations: the meal supplies

- 1) less than 2000mg of sodium per day;
- 2) less than 35% of the energy from fat;
- 3) more than 200g of vegetables.

Meals available to customers

Compared to the Belgian recommendations, the theoretical meal combinations supplied too much protein, fat and insufficient carbohydrates. On average, 64% of the meal combinations available contained more than 35% energy from fat, 18% of the combinations supplied more than 2000mg sodium and 86 % of the meals contain less than 200g of vegetables. The number of meal combinations which are in line with all 3 recommendations was marginal. Most theoretical meal combinations comply with none or only one of the 3 nutritional recommendations.

Meals consumed

Data was collected for 330 meals consumed. Very few meals contained fruits and some meals contained no vegetables apart from those in the soup. Protein and fat were supplied excessively: 50% and 51% of the meals consumed had contents of protein and fat higher than the advised total content. On average 60% of the meals consumed provided more than 35% energy from fat, 17% of the meals consumed contained more than 2000mg sodium per day and 13% of meals consumed contained 200g or more of fruit or vegetables. Only 5% of the meals had a profile that complied with all recommendations. Those meal choices were mainly the vegetarian options or meal components with a large vegetable component.

Conclusions

The macronutrient characteristics of the meals chosen were largely in concordance with the theoretical meal combinations. The portion size of fruits and vegetables was the criterion most difficult to comply with in the

meals consumed but in the theoretical meal combinations this was the energy supplied by fat.

The vegetable portion in half of the lunches consumed was largely too small to comply with the recommendations for a hot lunch and few customers purchased extra portions. Fruits were not included in the menu and had to be purchased separately. One of the key recommendations resulting from our study is to explore the effect of providing extra fruits and vegetables in the canteen, which has proven to be a successful intervention in Denmark⁵.

Labeling based on nutrient profiling is believed to be a promising way to introduce informed choice to consumers, thereby triggering healthy choices of food items. We show how the profiling can also be used as an evaluation instrument in canteens. Our findings pave the way for a nutrient profile system in our setting, in particular to promote the choice of vegetables and starch component.

Our data show how the profile of the meals chosen follows clearly that of the meals provided. Only 5% of the meals available complied with our optimal nutritional profile, which makes it quite improbable to make an optimal choice in absence of any guidance. In our canteen, healthy food choices require additional efforts by the customer. Too many meal choices are simply too rich in fat and sodium and contain insufficient vegetables and fruits. In our setting, most customers finished their plates and simply ate what was offered. Our findings highlight the need to introduce changes in the meals offered before working on customer's choice in our setting. Energy supply from macronutrients needs to be more balanced and portion sizes of fruits and vegetables in the canteen should increase. In our context, these modifications may bring us a long way in promoting a genuine healthy diet.

Acknowledgments: There was no outside funding or support to conduct the study

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