"Eating Out" Among University Students

O Fenómeno de Comer Fora de Casa em Estudantes Universitários

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ABSTRACT

Objective: To compare the Eating Out phenomenon among university students from private and public schools.

Methodology: Cross-sectional study conducted among 317 students from private (Biotechnology Faculty) and public (Engineering Faculty) universities aged 19 to 23 years old. Lifestyle variables such as food habits as well as socio-demographic background variables were included in a self-administered structured questionnaire.

Results: The proportion of students from the private university who take more than four meals per day is significantly higher than the proportion of students at public university (60.3% *vs.* 32.1%, p<0.001) but there are no significant differences in the number of meals taken away from home (proportion of students who take more than two meals away from home: 30.6% Biotechnology Faculty *vs.* 33.7% Engineering Faculty, p=0.606). The canteen is the most referred place to eat out of home (40.8%) and the proportion of students from the private university who choose the restaurant is higher (28.2% *vs.* 4.9%, p=0.005). The number of meals taken away from home is associated with higher consumption of carbonated soft drinks and fried snacks. The most common reasons for the consumption of fast food mentioned by the students are "appreciate its flavor", "time scarcity" as well as "to take meals with friends who eat the same food". Lunch and morning and afternoon snacks are the meals that students have more often away from home.

Conclusions: Eating out is frequent among university students. The frequency of consumption of high energy foods suggests that food choices are not the most favourable. Differences between food patterns can be observed when comparing students from a private institution with students from a public one.

KEYWORDS: Eating out, University students

RESUMO

Objectivo: Comparar o fenómeno de comer fora de casa em estudantes universitários, provenientes do ensino público e do ensino privado.

Metodologia: Estudo transversal conduzido em 317 estudantes do ensino universitário privado (Escola Superior de Biotecnologia) e público (Faculdade de Engenharia da Universidade do Porto), com idades compreendidas entre os 19 e os 23 anos. Dados relativos aos estilos de vida, nomeadamente hábitos alimentares,, bem como características sociodemográficas foram recolhidas através de questionário estruturado autoaplicado.

Resultados: A proporção de estudantes provenientes do ensino privado que faz mais de 4 refeições por dia é significativamente maior do que a respetiva proporção entre estudantes do ensino universitário público (60,3% *vs.* 32,1%, p<0,001), mas não existem diferenças significativas no número de refeições feitas fora de casa (proporção de estudantes que fazem mais de 2 refeições fora de casa: 30,6% Escola Superior de Biotecnologia *vs.* 33,7% Faculdade de Engenharia da Universidade do Porto, p=0,606). A cantina é o local mais referido para a realização de refeições fora de casa (40,8%) e a proporção de estudantes do ensino privado que escolhem o restaurante é superior, comparativamente com a proporção de estudantes do ensino público (28,8% *vs.* 4,9%). O número de refeições feitas fora de casa está associado a um consumo mais elevado de refrigerantes e de "snacks" fritos. As razões mais frequentemente apontadas para este consumo são "apreciar o seu sabor", "falta de tempo", assim como "fazer refeições com amigos que ingerem o mesmo tipo de alimentos". O almoço e as merendas da manhã e da tarde são as refeições mais frequentemente realizadas fora de casa.

Conclusões: Comer fora de casa é frequente entre estudantes universitários. A frequência de consumo de alimentos de elevada densidade energética sugere que as escolhas alimentares nem sempre são as mais favoráveis. Diferenças no padrão alimentar são visíveis entre alunos que frequentam o ensino universitário público e o privado.

PALAVRAS-CHAVE: Comer fora de casa, Estudantes universitários

INTRODUCTION

Modern lifestyles and time scarcity have been contributing to an increase in food consumption away from home, and this trend is likely to continue (1-7). Individuals who frequently eat out of home (in places like restaurants, canteens, cafeterias or similar establishments) or who acquire ready to eat food products to eat at home, may have higher energy and nutrient intakes than those who generally eat food prepared at home (8). Further, some studies have shown a positive relationship between body weight and the frequency of food consumption at restaurants, particularly fast-food establishments (1, 9). Among the reasons given for such association is the higher energy intake due to the larger portion sizes or the high energy density of certain foods available in many restaurants (10, 11). Food consumption out of home is also related with higher sodium consumption (14). This is obviously a relevant issue in the present non-communicable diseases pandemic context.

In countries like United States of America, this is a very

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common behaviour. A study estimated that adults eat approximately 30% of their meals away from home, including 19% of breakfasts, 54% of lunches, and 20% of dinners (12). This behaviour seems to be more frequent in men than among women (13, 14). Eating out is particularly common among young people. Coffee/tea/water and sweets are the stuffs most frequently taken (10, 15, 16).

In Portugal, university admission can be a critical period for lifestyles changes, namely regarding diet, since many youngsters leave their parents' houses and start being responsible for their meals. It is desirable that students maintain healthy food habits because as young adults, it is possible that those habits persist throughout their lives. Students' pocket money largely determines their food options, since different catering services have different prices. But many other factors, such as sex, previous food habits, branch of studies engaged and the availability of catering facilities will also determine the food choices. This study intended to describe "eating out" among two different samples of university students: one from a health sciences private university and another one from an engineering public university.

METHODOLOGY

Subjects

This study was constituted by two sub-samples of Portuguese university students (n=317), collected in the academic year 2009/2010. Private university students (n=232) were engaged in health sciences courses and were recruited from the Biotechnology Faculty (BF) of Portuguese Catholic University, through a health survey involving all students of the first cycle studies (participation rate: 68.3%), and the chemical engineering students sample (n=85) was constituted by convenience from the Engineering Faculty (EF) of Porto University (participation rate: 89.5%).

Data collection

Data was collected using two self-administered structured questionnaires, one for each sub-sample. The questionnaire applied in BF was more extensive, since it intended to characterize health status and dietary intake of the students; questionnaire prepared for EF students intended only the characterization of dietary intake and in this topic was more complete than the previous one. Both allowed the socio-demographical characterization of participants. These variables included sex, age, marital status, year of studies, if they live away from home to study and if they benefit from a scholarship. In order to characterize the food pattern, information on number of meals per day, number and place of the daily eating out meals and frequency of consumption of some high energy foods was collected. A list of sixteen food or food groups of sweets and fast food was presented and the frequency of consumption was recorded as a categorical variable with nine pre-specified categories from "never or less than once per month" to "three or more times per day". A moderate consumption was assumed if it was once per week or less for sweets, and once per month or less for fast food. Other frequencies were considered as high consumption. We also inquired students about the reasons for fast food consumption.

For the EF sample, it was also possible to obtain information about the meals usually taken away from home and the foods usually eaten. For this purpose, questionnaire included a list of all high energy density foods included above and other beverages.

Questionnaires were distributed in a lecture and gathered some days later in BF, but in the same day in EF.

Anonymity and confidentiality were assured to all participants. Presumed consent was assumed since the questionnaire was self-administered and so the students could liberally decide not to answer the questionnaire.

Statistical Analysis

The Kolmogorov-Smirnov test was used to assess the assumption of normality. Variables were described as medians and respective interquartile ranges (P25; P75) or as proportions, as suitable. Means of the variables with non-normal distributions were compared by Mann-Whitney U test. Proportions were compared by qui-square test. A significance level of 5% was considered. Statistical analysis was performed by SPSS software, version 20.0.

RESULTS

Participants had a median age of 20 years (19; 22), being slightly higher among the engineering students [22 years (21; 23) *vs.* 20 years (19; 21), p<0.001]. Almost all were single (96.8%). The women proportion was higher among BF students (77.6% *vs.* 63.5%, p=0.014). Engineering students were more prone to live away from home (42.9% *vs.* 26.3%, p=0.006) and more likely to benefit from a scholarship (31.0% *vs.* 10.1%, p<0.001). Regarding food habits, it was observed that females took more meals per day and that BF students took more daily meals than the EF students; in fact the number of students that took more than four meals per day was two-fold higher in the first sub-sample. However, there was no significant difference in the number of meals taken away from home according to gender or faculty. The number of "eating out" meals was significantly higher among students who benefit from a scholarship (Table 1).

Almost all students (93.1%) ate away from home at least once a day, being this behavior similar between the two sub-samples. The place often chosen for "eating out" was the faculty canteen (40.8%), followed by the faculty buffet (25.3%) and the restaurant (21.5%). Large differences between faculties were found for the number of students who took their meals in the faculty canteen (52.0% for the EF students *vs.* 35.9% for the BF students) and in the restaurant (28.2% for the BF students *vs.* 4.9% for the EF students; Graphic 1).

TABLE 1: Total number of daily meals and number of "eating out" meals

	Total number of meals per day	Number of "eating out" meals per day
	> 4 meals	**> 2 meals**
Gender (%)		
Female	56.0	32.5
Male	40.2	30.5
p	**0.014**	0.741
Faculty (%)		
Biotechnology	60.3	30.6
Engineering	32.1	33.7
p	**<0.001**	0.606
Scholarship benefit (%)		
Yes	61.2	52.1
No	49.8	27.8
p	0.142	**0.001**

GRAPHIC 1: Place of "eating out" meals according to the Faculty origin of students

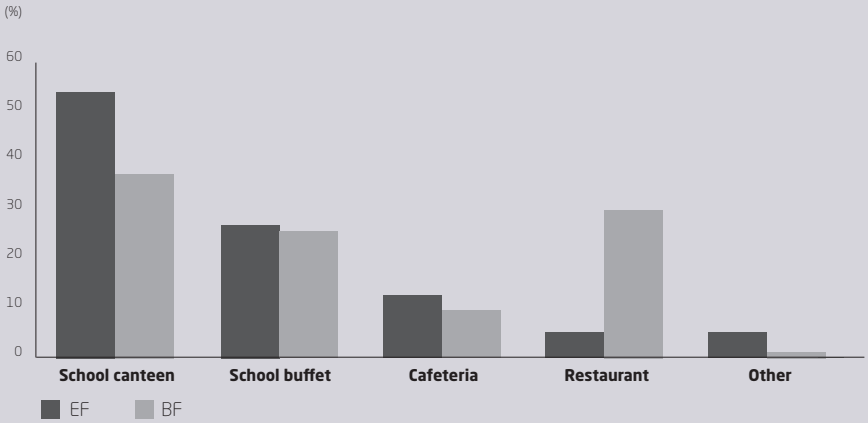


Table 2 shows the proportion of students with high consumption of sweets (more than once a week) and fast food (more than once per month), according to the number of daily "eating out" meals. The eight food items shown are the most popular among students (of 16 food or food groups listed in the questionnaires) - four items belong to the fast food group and another four to the sweets group. The number of meals taken away from home was associated with higher consumption of carbonated soft drinks and fried snacks, but not for the other groups (Table 2).
Comparing students of the two institutions, we only found differences for a high consumption of sweet desserts (34.3% in BF *vs.* 58.3% in EF, p<0.001) and for a high consumption of pastry with meat (40.4% in BF *vs.* 54,2% in EF, p=0.039), being both more frequent among EF students.
The most frequently selected reasons for fast food consumption were: "appreciate its flavor", "time scarcity" and "take meals with friends who eat the same food". No significant differences were found between the two samples.
Only for EF students we could quantify the meals more frequently eaten away from home (Graphic 2). The lunch was undoubtedly the meal that was mostly taken away from home, followed by the morning and afternoon snacks. Still for this sub-sample, we observed that 48.1% of the students took hot beverages away from home, 34.6% consumed fruit juices, 31.7% consumed carbonated soft drinks, 26.9% consumed chocolates, 26.6% cakes and 19.5% fried snacks, at least, once a week.

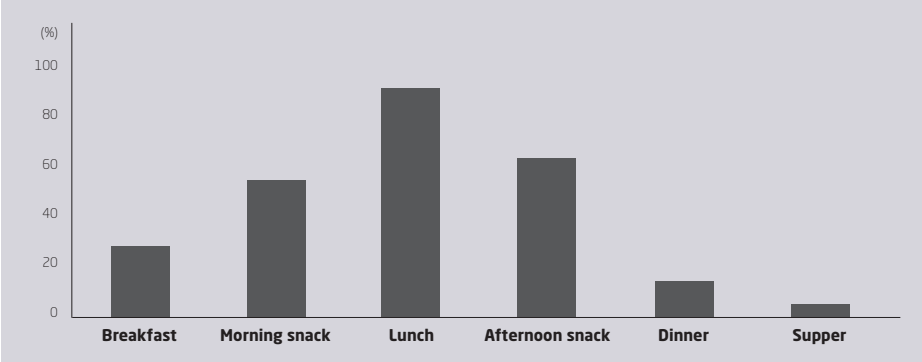
DISCUSSION

Eating out is a very a common phenomenon among the displaced university students, regardless they study in a public or in a private faculty. The more frequently taken away from home meals were lunch and morning and afternoon snacks.
There was a main difference between the two studied groups: private faculty students attend restaurants more frequently than the public faculty students, who attend more often the faculty canteen. Differences in economic and social status may be responsible for this - probably BF students receive a higher amount of pocket money. In Portugal efforts have been made to improve canteens' food quality and variety, maintaining, as much as possible, a reasonable price. However those places don´t seem to be very popular among students. The evaluated faculties are located in the same square kilometer along with a multi-restaurant shopping center. Many students prefer to have lunch at the shopping even though food prices are higher than in the school canteen.
Eating away from home was significantly associated with the consumption of high energy density foods, namely carbonated soft drinks and fried snacks, suggesting that students' food choices are not the healthier ones, regardless the places of consumption (canteen or restaurant). Further, EF students seem to be more prone for the consumption of high energy density foods, as observed for sweet desserts and pastries with meat. However, we cannot ascertain if these differences are explained by economical reasons or by their background (different study branches), since students from BS were engaged in health sciences courses. Another important issue is the fact of EF students were more prone to live separated of their family and, consequently, if they opted for to eat at home they needed to prepare their meals. It is also interesting and apparently nonsense to observe that students who benefit from a scholarship toke meals out of home more frequently. Since students who lived out of home were more likely to benefit from a scholarship we cannot exclude that the main reason for these choice was to live separated of their family.The reasons pointed out to have meals away from home were related with hedonic aspects and time constraints.
Considering the contemporary lifestyles, it's predictable that eating out will continue, therefore people should be educated in order to make healthier choices away from home – clear food labeling could be helpful (17).
Beyond the convenience, fast food has a strong power on their consumers. Two researchers advanced that their consumption could be as addictive as heroin (18). This comparison illustrates very well the difficulty in change the habit of consumption fast food regularly.
Only for EF group we could ascertain the meals more frequently taken out of home. Lunch and morning and afternoon snacks appeared as the meals more frequently taken out of home. Although this information was not available for the other sub-sample, we believe that the same happened with the other students, due to their daily schedules.
Comparing the frequency of consumption of sweets and fast food (total) and the frequency of consumption of these foods away from home (only possible for EF students), we concluded that these foods are probably also consumed at home. Interventions should incentivise healthy choices not only out of home, but also at home.
A common behaviour among university students nowadays, probably more frequent than at the time of data collection, is the utilization of lunchboxes. This behaviour raises new challenges regarding the food choices, once not all foods are suitable to be heated in a microwave or to eat without heating. Fast foods, namely fried foods could be frequently chosen. Information on healthy alternatives for lunchboxes should be widespread.
The available literature presents a big limitation - the lack of a unique definition of "eating out". Three main definitions have been used: a) all food items sourced from external eating locations, irrespective of place of consumption; b) all food items consumed at external locations, regardless of whether they were prepared in or outside home and c) all food items sourced and consumed from external eating locations.
A common definition would allow direct comparisons between studies and would facilitate the formulation of public health policies that encourage consumers to make healthier choices when eating out (19).
For the best of our knowledge, this is the first study that describes eating out phenomena among Portuguese university students. Notwithstanding to consider this a valuable study, it presents some limitations. First of all, the inexistence of all data for both sub-samples hampers a complete comparison between both sub-samples. We also have benefited to compare separately branches of study and private/public status of the Faculties.

TABLE 2: Frequency of consumption of sweets and fast food products, according to the frequency of "eating out" meals

	Food or food group	High consumption (% students) according to the number of "eating out" meals		p
		≤ 2	≥ 3	
Sweets (%)	Chocolate	51.2	59.0	0.197
	Sweet desserts	37.0	48.0	0.064
	Cookies	81.9	82.0	0.984
	Carbonated soft drinks	51.7	64.0	**0.041**
Fast food (%)	Pizza	43.8	45.0	0.844
	Hamburger	46.4	46.0	0.946
	Pastry with meat	43.8	44.0	0.976
	Fried snacks	68.4	81.0	**0.021**

GRAPHIC 2: Meals more frequently eaten away from home, at least once a week



CONCLUSIONS

Eating out is frequent among university students. The frequency of consumption of high energy foods suggests that food choices are not the most favourable. Differences between food patterns can be observed when comparing students from a private institution with students from a public one. Despite the fact that information on healthy food habits is widely available and university students are one of the more literate population strata, much more could be done to modulate their food behaviours.

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