Introduction

Intake of caffeinated and energy drinks is advertised as beneficial to academic performance due to its stimulating properties. (1) Caffeine consumption is associated with higher levels of stress, tobacco consumption (2) and alcohol intake (2-4). Individuals with better health levels are less likely to drink energy drinks (1) and those who ingest energy drinks show worse eating behaviors (5).

Aims

➢ To characterize the consumption of caffeinated (CD) and energy drinks (ED) among students of the University of Porto (UP), when entering the UP and during exam season.
➢ To compare the consumption between sexes.
➢ To measure the associations with health and stress levels.

Methodology

Use of a questionnaire with online dissemination (via LimeSurvey). The consumption of CD and ED was evaluated in terms of frequency. The sample consisted of 433 individuals. Health levels were evaluated using a scale ranging from 1 to 100. Stress levels were evaluated using 5 categories: 1-very low, 2-low, 3-not too low nor too high, 4-high and 5-very high. Statistical treatment of data was done using SPSS 26.0 (descriptive, chi-square, Mann-Whitney test and Spearman correlation coefficient). A confidence level of 95% was considered.

Results

The sample consisted of 77.1% females, with an mean age of 21 years (sd=2.8). Only 31.4% of the sample was from Porto and 67.9% were not attending a nutrition degree. Moreover, the mean of health levels was 82 (sd=15). The majority of the sample (54.0%) reported high or very high stress levels.

1. Modification of the frequency of drinks consumption

| Without dependency with sex (UP): p=1.000; exams: p=0.568) |
|---|---|
| **Entering UP** | **Exam Season** |
| CD | 49.2% | 39.1% |
| Energy drinks | 25.1% | 21.4% |

2. Modification of the consumption’s frequency of caffeinated and energy drinks when entering the UP and during the exam season among the students that modified their consumption

![Bar chart showing the percentage of students modifying their consumption]

Regarding CD, when entering UP the increase of the consumption’s frequency was more common among males (p=0.040).

3. Relationship between caffeinated and energy drinks consumption with health and stress levels

Higher CD consumption frequency was associated with better perceived health (p=0.096; p=0.045) and higher stress levels (p=0.108; p=0.024). ED consumption was not associated with health (p=0.083; p=0.086) nor with stress levels (p= 0.041; p=0.396).

Discussion and Conclusion

The results of the present study are similar to those in the literature (1-2), regarding the increase in the frequency of caffeinated drinks consumption when entering the university and the exam period. However, the literature reports an increase in the consumption of energy drinks (O’Brien et al. 1) and this study found the opposite. Furthermore, we did not find an association between an increase in energy drink intake and lower health levels, as reported by Mahoney et al. (1). Males were more likely to increase the frequency of consumption of caffeinated drinks, when they entered in UP. Regarding the higher consumption of caffeinated drinks, an association with higher stress levels was found, as in Khalil et al. (2).

References