Energy Drinks Consumption among Nursing Students

Gema Romero Zarallo1*, Adela Gómez Luque1, Maria Zoraida Clavijo Chamorro1 and Cristina Iglesias Ruiz1

1Department of Nursing, School of Nursing and Occupational Therapy Cáceres, University of Extremadura, Spain

Abstract

Introduction

Energy drinks are very popular among students. The possible adverse effects derived from the increasing consumption and high content of caffeine represent a health problem for young people.

Objective

To determine the prevalence and frequency of consumption of energy drinks and traditional drinks (coffee or tea) in university nursing students as well as the perceived dependence and cessation capacity at any time.

Methods

Descriptive cross-sectional study. The sample was formed by students of degree on nursing from the University of Extremadura in Cáceres, from 18 to 25 years old. On April of 2018, sociodemographic and related to the consumption of energy drinks data were collected. Chi square was used for the qualitative variable, in the bivariate analysis.

Results

54 university students have participated. 32.5% consume traditional or energy stimulating drinks daily. The most consumed product is coffee (59.3%). Consumers of energy drinks frequently take it during the examination period (31.5%). 67.4% consider that they are not dependent on these beverages. And 53.5% of the participants believe that they can stop their consumption at any time.

Conclusion

In light of the results, a high prevalence of consumption of energy drinks and stimulants was obtained, highlighting coffee in the first place. Although most of nursing students consider have not any addiction to these substances and the facility to stop at any time. The implementing of educational programs is necessary, to inform about the adverse effects for the health.

Key Words: Students; Nursing; Young Adult; Energy Drinks; Caffeine; Dependency

Introduction

Since energy drinks were introduced to the market in 1987, there has been an exponential increase in consumption, especially among young people, students and athletes [1,2]. The term energy drinks refer to a group of beverages that include high sugar content and bioactive components or stimulants such as caffeine, taurine, glucuronolactone, B-group vitamins, extracts of guarana, green tea, ginger and others, which stimulates physically and mentally [1,3]. Traditional drinks (coffee, tea) and sports drinks are differentiated by their composition [2].

For this reason, students consume this type of beverage in order to achieve performance in the school environment [4], since some studies report that energy drinks improve attention and alertness because the combination of caffeine and glucose can help cognitive performance and decrease fatigue during periods of high cognitive demand [1], such as during the examination period [5].

However, the consumption of energy drinks and other beverages with stimulant effects has detrimental effects on health due to its high content of caffeine and glucose [1,6,7]. Regarding the effects related...
to caffeine content, palpitations, hypertension, central nervous system stimulation, nausea, vomiting, hypocalcaemia, metabolic acidosis, alterations in the sleep pattern, anxiety, cardiovascular problems, seizures and even death stand out [1,2,8].

In addition, a frequent tendency to drink energy drinks with alcohol among young students is observed, becoming a dangerous habit since it interacts the stimulating effect of energy drinks and the depressive effect of alcohol, being able to mask alcohol intoxication. Since it allows to consume high amounts of alcohol being still alert for the effect of energy drinks, which results in a "drunkenness awakens". Adding that the mixture is very dehydrating, a fact that will hinder the ability to metabolize alcohol, thus increasing intoxication. There has also been an association between the consumption of energy drinks and the use of other illegal drugs, and the adoption of risk behaviour, aggressive behaviour, driving under the influence of alcohol [1,9-11]. Another adverse effect related to the high glucose content of energy drinks could be associated with the risk of overweight or obesity [1,12].

Since the target population for the commercialization of these products are young people and their sale is increasing, and there are no regulatory policies, there is concern about the possible adverse effects on health from the consumption of energy drinks, and the high prevalence among the teenagers [13]. Therefore, the objective of this study is to determine the prevalence and frequency of consumption of energy drinks and traditional drinks (coffee or tea in university nursing students as well as the perceived dependence and cessation capacity at any time.

**Methods**

**Design**

Cross-sectional descriptive study.

**Sample**

The participants were students of the Degree in Nursing from University of Extremadura in Cáceres (Spain), of both sexes between 18 and 25 years.

**Data Collection**

On April of 2018, the students responded at the end of their daily class. All participants agreed to participate in the study.

**Instruments Used**

A self-administered questionnaire with eight questions about the consumption of energy drinks and stimulants with multiple answers. Although only consumers of any kind had two additional questions.

**Data Analysis**

The statistical package SPSS (version 23.0) was used for the statistical analysis.

The results of the descriptive analysis are represented as frequencies and percentages in the case of qualitative variables.

A confidence level of 95% (p <0.05) was accepted for all statistical analysis.

Bivariate analysis was performed by Chi-squared for qualitative variables. Cramer’s V was chosen as association magnitude. Odds ratios (OR) with 95% confidence intervals (CI) were calculated to estimate the associations between energy drinks or coffee or tea consumption and frequency, perceived dependence and cessation capacity.

A confidence level of 95% (p <0.05) was accepted for all statistical analysis.

**Results**

A total of 54 students participated in the first, second and third years of the nursing degree, between 18 and 25 years old, both sexes, predominantly female (87.3%).

Regarding the frequency of consumption of any type of energy and stimulant drink, 35.2% of students consume daily and 18.5% never (Figure 1).

![Figure 1: Frequency of consumption of any energy or stimulant drinks.](image-url)
proportions, 33.3% consume coffee and energy drinks, 13% consume coffee and tea and in smaller proportion (11.1%) consume tea and energy drinks.

Statistically significant differences were detected between the frequency of consumption of any beverage and the consumption of coffee and energy drinks (p < 0.05).

Of the consumers of energy drinks, 31.5% indicate that they consume a greater amount during exams. And drinkers of coffee or tea consume daily (46.3%) this type of stimulants (Figure 2).

Only 1.9% of students take more than 4 cans of energy drinks per day and 5.6% take more than 4 cups of coffee per day.

They consider that the drinks that cause in the organism greater stimulating effect are the energy drinks, 61.1% of all the participants. A high percentage of consumers of energy or stimulant drinks (68.2%) believe that they have not any type of dependency on these substances (Figure 3).

There was a statistically significant difference between perceived dependence and frequency of consumption of any type of energy and stimulant drink (X²(2) =10.827; p=.004), with a moderate size of the effect (V=0.496).

Statistically significant differences were detected between coffee consumption and perceived dependence (p = 0.041) and where the probability of consuming coffee and perceiving dependence is seven times higher (OR := 7.526, 95% CI [0.8-65.6]).

In addition, a high frequency (52.3%) could stop consuming at any time, as suggested in answers of students.

Discussion

Current study has determined the prevalence and frequency of consumption of energy drinks and stimulants among university students, a high prevalence of energy drinks consumption (46.5%) is observed. As in previous studies, the prevalence ranges between 35-70% of the consumption of energy drinks depending on the place of study [4,7,14-20]. Specifically, of 1620 nursing students from Korean universities, 78.1% reported having consumed energy drinks and some of them reported using excessive amounts [21]. In another study, student athletes consumption of energy drinks is much lower (14.5%) [22].

Highlighting that 31.5% consumes energy drinks during the examination period, as in other studies, which were also the first choice for school reasons of students to increase concentration and feel less tired [4,5,16,17,23].

13% of students consume energy drinks on weekends and parties, which may be related to alcohol consumption, as reported by other studies, which combine both [17,18,19,24]. On weekends, students also want to socialize and endure longer, so they use these drinks [19,23].

As in other studies, the most common sources of caffeine come mainly from coffee (59.3%) followed by energy drinks [23,25,26]. In our sample coffee consumers took it daily (46.3%), this may be related
to the customs of our Mediterranean culture of having a cup of coffee or tea (in a lesser proportion) at breakfast.

Regarding the question about which drink has the most stimulating effects due to its caffeine content, the response of a large number of the students was energy drinks. As another study indicates that young people overestimate the caffeine content of energy drinks and underestimate the caffeine content of coffee [25].

In terms of quantity, most students take not more than one cup or can per day of coffee or tea and energy drinks, so they consider that they are not dependent on it (68.2%) and can stop its consumption at any time (52.3%), although no statistically significant differences were observed in their association. Regarding dependence related to caffeine or energy drinks, we found a notable lack of scientific literature, which has not been able to contrast data.

Conclusions

In light of the results obtained, we may conclude that nursing students consume a stimulant drink daily (coffee or tea) and most of them generally consume at least one cup or can of energy drink or coffee or tea a day. Coffee stands out as the most used, followed by energy drinks that are most consumed during exam periods.

Although they consider that they have not an addiction to these substances and that they can stop using them at any time. For this reason, implementing educational programs is necessary, to inform about the adverse effects for the health.

These strategies would limit consumption, especially in children and adolescents who are also targets of advertising campaigns in which the beneficial effects were evaluated.

The sample size and the variables studied not based on internationally validated questions suppose the limitation in the present study. Even so, the results of the current cross-sectional study contribute to continue investigating, on denudation and addition to sugar and caffeinated beverages and the capacity to limit their consumption.

References

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