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Energy drinks for athlete students in university

Băuturi energizante pentru studenții sportivi din universitate

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Abstract

Background. In recent years, the world has seen an increasing trend in the consumption of beverages called "energy drinks", a non-scientific and non-medical marketing term for products marketed by beverage companies. These are usually beverages containing caffeine as well as other substances such as taurine, guarana, which claim to provide consumers with energy and vitality.

Aims. This study's objective was to discover the pattern of consumption of energy drinks for athlete students who participate in the university sports associations of the regions of Bouira, Tizi Ouizou, Boumerdes, Bejaia, and their behaviors in the choice of these drinks.

Methods. A study sample included university athlete students from the faculties and institutes of the four state universities that are mentioned above: 32 athletes (20 males and 12 females) qualified for the inter-state championship. A questionnaire was distributed which included a set of questions based on two axes, and appropriate statistical tools were used to calculate the results (percentage, chi^2).

Results. Fake promotions and advertisements attract athletes to consume energy drinks. Information and wrong misconceptions can harm these students though the existence of health awareness for some students was noticed in the consumption of some brands.

Conclusions. The necessity to care for university athlete students and raise health awareness and the nutrition behavior for them.

Keywords: energy drinks, athlete students, university environment.

Rezumat

Premize. În ultimii ani, lumea a văzut o tendință crescătoare în consumul de băuturi numite "băuturi energizante", un termen comercial neștiințific și nemedical comercializat de companiile de băuturi, de obicei băuturi care conțin uzual cafeină, precum și alte substanțe, cum ar fi: taurina, guarana, pretinzând că oferă consumatorilor energie și vitalitate.

Obiective. Acest studiu a urmărit cunoașterea modelului consumului de băuturi energizante al studenților sportivi din universități, activi în asociații sportive universitare pentru statele din Orientul Mijlociu (Bouira, Tizi Ouizou, Boumerdes, Bejaia) și cunoașterea culturii lor nutriționale, cu alte cuvinte comportamentele lor în alegerea băuturilor.

Metode. Am urmărit selectarea eșantionului de studiu într-un mod intenționat, care a inclus studenții sportivi universitari care sunt activi în asociațiile menționate mai sus. Sunt 32 de jucători de ambele sexe (20 de bărbați și 12 femei) care au fost calificați la campionatul inter-state (zonal) după stabilirea calificărilor dintre facultățile și institutele celor patru universități de stat menționate mai sus. A fost distribuit un chestionar care a inclus un set de întrebări bazate pe două planuri și am folosit instrumentele statistice adecvate pentru a calcula rezultatele (procent, chi^2).

Rezultate. Promoțiile și anunțurile false îi atrag pe studenții sportivi să consume băuturi energizante. Existența unor informații și concepții greșite ale studenților sportivi este legată de aspectele dăunatoare ale băuturilor energizante. S-a observat existența conștientizării privind sănătatea la unii studenți în consumarea unor băuturi.

Concluzii. Necesitatea de a avea grijă de studenții sportivi universitari de pretutindeni se poate realiza prin creșterea gradului de conștientizare privind sănătatea și comportamentele nutriționale.

Cuvinte cheie: băuturi energizante, studenți sportivi, mediul universitar.

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Introduction

In 1977, the first brand mark for energy drinks emerged in the United States of America (3); thus, their industry flourished and spread until they reached more than 500 different trade brands in 2006 (2).

Energy drinks are marketed as they raise the level of mental and body activities (7), this product targets a category of youth between 18-35 years old, and the US Food and Drug Administration in its report issued in 2007 warned that some of the companies of energy drinks promote them as a legal alternative to drugs (5).

Energy drinks are considered a booming market, with steady increases in the sales all around the world (4). In addition, there are still many questions about their components and the possible health complications, in contrast to what the energy drink companies show (Worthley et al., 2010). Thus, these drinks do not provide the body with energy (Nelson et al., 2008), they contain substances that stimulate human nerves, as well as many other substances that cause stress, anxiety and inability to sleep (Bahaa El-Din, 1999).

For many years, we have heard and seen a set of advertisements that promote sports drinks calling them energy drinks (6); thus, many promoters present these products as substances that increase mental and physical abilities and specifically sexual ability for athletes and normal people in general.

Over the years, companies that work in the industry of sports drinks or energy drinks started to grow fast (Ragsdale et al., 2010). This may be due to the significant increase of demand for these drinks from civil societies that rely on technology that leads them to laziness and inactivity. Moreover, with the spread of satellite stations and the big number of special ads for these products, people became eager to buy energy drinks in order to compensate the lack of physical performance; this led to addiction to these drinks without being aware of it (***, 1995).

After a lot of research, laboratories and field studies showed that these drinks have many dangerous effects on human health (Lamarine, 1994); thus, they lead to many diseases and sometimes to death (sudden death) (Abd al-Rahman al-Muzayqar, 1990). What is strange here is that companies manufacturing these drinks write their benefits on the label of the drink bottles and forget to mention their negative effects (Astorino & Roberson, 2010), keeping in mind that these benefits are fake and are not true in reality (1).

Hypothesis

The pattern of consumption of different energy drinks in athlete students.

Promoting and advertising energy drinks increase the consumption of these drinks by athlete students.

Some information and beliefs that are related to the benefits of energy drinks for students increase their consumption.

Material and methods

Research protocol

This was aimed at knowing the pattern of consumption of energy drinks for athletes, as well as knowing their nutrition culture, in other words their behaviors in choosing these drinks.

a) Period and place of the research

The inter-state championship (regional) after setting the qualifications between the faculties and institutes of the four state universities for 2015-2016.

b) Subjects and groups

The study included 32 sports players of both genders (20 males and 12 females) who were qualified for the inter-state championship (regional). The descriptive approach was used and the research sample was selected intentionally; it included the university athlete students participating in the associations of Bouira, Tizi Ouizou, Boumerdes, Bejaia. They were administered a questionnaire which comprised a set of questions divided into two axes.

c) Tests applied

The title of the questionnaire: *The harmful effects of energy drinks are not fully understood and excess consumption may cause unwanted side effects*.

The administered questionnaire included a set of questions divided into two axes:

- demographics: (age, gender, residence, level of study, sport practiced)
- energy drink consumption:

1) Do you presently consume energy drinks? Yes/No

2) Have you ever consumed an energy drink? Yes/No

3) Rank your reasons for using energy drinks: Sports/ Activity/Power

4) What influences your choice of energy drinks? Price/Popularity/Taste

5) What type of energy drink do you mainly consume? Red Bull/Xs/Power Horse

Statistical processing

We used the statistical package for social sciences IBM SPSS V25 to calculate search results:

- percentage (%)
- X^2 (chi-square).

Results

The percentages and chi-square test for the axis statements are illustrated in Table I and Table II.

Discussions

Analysis and discussion of the results of the first axis (Table I)

As the answers from the table above show:

- The answers to the first question evidence that 84.37% of the sample reported that they currently consumed energy drinks; however, 15.63% of them answered the opposite, and the chi-square test demonstrates these differences, the calculated value of chi^2 being 15.12, which is higher than the scheduled value (3.84), so that the differences are statistically significant.

- Concerning the second question, a proportion of 87.5% from the total sample answered that they had already taken energy drinks, whereas 12.5% reported the opposite, and the chi-square test emphasizes these differences in results, the calculated value of chi^2 being 28.8, higher than the scheduled value (3.84); thus, the differences in results are statistically significant.

- In the case of the third question, a percentage of 56.25% from the total sample answered that they took

Table I
Percentages and chi-square test for the first axis statements

Distribution/ Questions	Suggestions	Repetitions	Percentage	Calculated value of (chi^2)	Scheduled value of (chi^2)	p
Question 1	Yes	27	84.37	15.12	3.84	<0.05
	No	05	15.63			
Question 2	Yes	28	87.5	28.8	3.84	<0.05
	No	04	12.5			
Question 3	Sports	06	18.75	8.4	5.99	<0.05
	Activity	18	56.25			
	Power	08	25			
Question 4	Price	08	25	12.2	5.99	<0.05
	Popularity	17	53.12			
	Taste	07	21.88			
Question 5	Red Bull	23	71.87	23	5.99	<0.05
	XS	04	12.5			
	Power Horse	05	15.63			

Table II
Percentages and chi-square test for the second axis statements

Distribution/ Questions	Suggestions	Repetitions	Percentage	Calculated value of (chi^2)	Scheduled value of (chi^2)	p
Question 1	Yes	25	78.12	10.12	3.84	<0.05
	No	07	21.88			
Question 2	Yes	26	81.25	12.5	3.84	<0.05
	No	06	18.75			
Question 3	Yes	30	93.75	24.5	3.84	<0.05
	No	02	6.25			
Question 4	Yes	08	25	08	3.84	<0.05
	No	24	75			
Question 5	Yes	23	71.87	6.12	3.84	<0.05
	No	09	28.13			

energy drinks for the purpose of activity (stimulating), while a proportion of 25% took them for the purpose of power, and 18.75% took them for the purpose of practicing sports. The chi-square test emphasizes these differences in results, the calculated value of chi^2 being 8.4, which is higher than the scheduled value (5.99), so that the differences in results are statistically significant.

- Regarding the fourth question, a percentage of 53.12% from the total sample answered that the reason for taking energy drinks was popularity; however, 25% reported that the reason was the price, and 21.88% took them because of their taste. The chi-square test emphasizes these differences in results, the calculated value of chi^2 being 12.2, higher than the scheduled value (5.99), so that the differences in results are statistically significant.

- Concerning the fifth question, a proportion of 71.87% of the total sample answered that the energy drink they consumed was Red Bull and 15.63% Power Horse, while 12.5% indicated XS; the chi-square test emphasizes these differences in results, the calculated value of chi^2 being 23, which is higher than the scheduled value (5.99), so that the differences in results are statistically significant.

Analysis and discussion of the results of the second axis (Table II)

As the answers above show:

- The answers to the first question evidence that a proportion of 78.12% from the total sample reported that these drinks were the main source of energy, while 21.88% answered the opposite; the chi-square test emphasizes these differences in results, the calculated value of chi^2 being 10.12, higher than the scheduled value (3.84), so that these differences in results are statistically significant.

- The second question shows that 81.25% of the total sample answered that their feeling tired resulted from the fact that they did not take energy drinks, while 18.75% answered the opposite, and the chi-square test emphasizes these differences in results, the calculated value of chi^2 being 12.5, which is higher than the scheduled value (3.84), which means that the differences in results are statistically significant.

- Regarding the third question, 93.75% of the total sample believed that the increase in their activity and vitality during training was due to the consumption of energy drinks; however, 6.25% answered the opposite, and the chi-square test emphasizes these differences in results, the calculated value of chi^2 being 24.5, higher than the scheduled value (3.84), which means that these differences in results are statistically significant.

- Concerning the fourth question, 25% of the total sample considered that there were alternatives to energy drinks, while 75% thought so in case energy drinks were unavailable; there was no alternative to them. In addition, the chi-square test emphasizes these differences in results, the calculated value of chi^2 being 08, which is higher than the scheduled value (3.84), so that the differences in results are statistically significant.

- In the case of the fifth question, 71.87% of the total sample answered that the obtained positive athletic results were due to energy drink consumption, while 28.13% answered the opposite. The chi-square test emphasizes these differences in results, the calculated value of chi^2 being 6.12, which is higher than the scheduled value (3.84), which means that the differences in results are statistically significant.

Conclusions

1. Promotion and misleading advertising increase the attractiveness of energy drink consumption to athletes.

2. The presence of some information and misconceptions about the benefits of energy drinks was seen among the students.

3. An increase in some students' awareness in consuming drinks was observed.

Recommendations

1. Paying attention to studies that are concerned with athletes' behaviors towards the matters and products of nutrition.

2. Providing university sports clubs and teams with athletic nutrition specialists.

3. Paying attention to university athlete students and increasing their awareness about health and nutrition behaviors.

Conflicts of interests

There are no conflicts of interest.

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