



INVESTIGATION OF ENERGY DRINKS CONSUMPTION AND HABITS IN NURSING STUDENTS

Mümin POLAT^{a*}, Serkan KÖKSOY^b, Canan DEMİR BARUTCU^c 

^aBurdur Mehmet Akif Ersoy University, Faculty of Health Sciences, Department of Emergency and Disaster Management, Burdur, Turkey

^bBurdur Mehmet Akif Ersoy University Faculty of Health Sciences, Department of Public Health Nursing, Burdur, Turkey

^cBurdur Mehmet Akif Ersoy University Faculty of Health Sciences, Department of Internal Medicine Nursing, Burdur, Turkey

ARTICLE INFO

Article history:

Received 15 January 2019

Accepted 23 April 2019

Available Online: 30 December 2020

Key Words:

Energy drinks, Nursing, Student

*Correspondence: Mümin POLAT

Address: Burdur Mehmet Akif Ersoy University, Faculty of Health Sciences, Department of Emergency and Disaster Management, Burdur, Turkey

E-mail: mpolat@mehmetakif.edu.tr

Turkish Journal of Health Science and Life
2020, Vol.3, No.3, 33-39.

ABSTRACT

The aim of this study is to determine energy consumption awareness and habits of nursing students. This descriptive study was conducted with 629 nursing students who were assessed on the socio-demographic form and energy drink information form. In the analysis of the data, chi-square and student t-test were used. The knowledge / awareness of energy drinks was found to be 95.6 % (n = 603). Energy consumption was found to be 70.3% in the surrounding people. Gender differences (p = 0.895) were not observed in the case of energy drinks being heard / known. Alcohol use was found as 19.7 % (n = 124). The difference between alcohol use and gender was statistically significant (p <0.05). Alcohol consumption was found to account for 13.20 % (n = 83) of energy drinkers. The difference between alcohol use and energy drink was statistically significant (p <0.05). The difference between the genders in energy consumption was statistically significant (p <0.05). Participants were found to consume an average of 1.32 / box energy drinks per day. The most energy-intensive use was at 21 years (n = 44). According to the results of the research, knowledge and usage of energy drinks are found to be high, and knowledge and consciousness of energy students should be increased through visual media and written sources about energy consumption and effects of university students who are especially at risk of harms of energy drinks.

1. Introduction

Energy drinks; energy drinks Turkish food Codex regulation communiqué Number: 2006/47) "can be utilized in the composition of the product provides energy and carbohydrates to the human body due to its content limits specified in the properties of the functional ingredients, vitamins and minerals refers to beverages that contain defined as" (Turkish Food Codex).

The first energy drink introduced in 1939, mainly used to improve physical performance are well known (Ford, 1999). Which started to be marketed under different names in different

countries of the world, energy drinks, Red Bull has begun to be marketed with the brand to Europe in 1997 (Anon, 1998). Energy drink consumption has been increasing every year worldwide (Görgülü et al. 2014). According to 2006 data, while 3.43 billion liters of energy drink consumption in the world for 2012 amounted to 4.8 billion liters, according to the data of (Reissig et al., 2009; Anonymous, 2013). Student athletes and active individuals in the age range between 21 and 35 energy drinks in particular are used quite extensively (Dikici et al., 2012). Energy drinks market-consumption while appealing to young

people, mainly in the field of sports sponsorship activities. In 2008, according to a study the size of the Sunday is 4.8 billion dollars (Heckman et al., 2010). Energy drinks market has reached 27.3 billion dollars in 2013, the data reveals that approximately. Vary the ingredients together, mainly the caffeine, guarana, glucuronolactone, taurine, ginseng, L-carnitine, ingredients such as constitutes the main component in these drinks. In the dosage appropriate for each of these items that are unlikely to harm the body although it may seem different clinical effects depending on the amount of consumption that can reveal get back together when it is observed (Görgülü et al. 2014).

The intake of energy drinks, especially with alcohol, has become very popular among young people (Reissig et al., 2009; Azagba et al., 2013). As a result of the use of energy drinks with alcohol, it has been reported that the stimulant effect of energy drink masks the soothing effect of alcoholic beverages (Atilla and Cakir, 2011). It has also been reported that energy drinks reduce the symptoms of alcohol intoxication and as a consequence increase alcohol consumption (Reissig et al., 2009).

Reasons for the use of energy drink among college students include awake, studying, using more energy in sports activities, and enjoying more with alcohol at parties.

2. Method

2.1. Purpose and Study Design

In this study, it was aimed to evaluate the consumption consciousness and habits of energy drinks which are frequently consumed among young people in Mehmet Akif Ersoy University nursing students in recent years. The cross-sectional and descriptive design was used.

2.2. Participants

This study was conducted in state university in Burdur, Turkey. Convenience sampling methods were used. The study sample consisted of 629 nursing students. The sample included those who volunteered to participate in the study. The inclusion criteria for nursing students were a person who voluntarily accepted participation in the research, was literate in Turkish, and was 18 years and older. The data was acquired by the researcher between February and June 2016 in a face to- face interview method, explaining the aim of the research to the nursing students who were part of the research sampling in the university where the research was carried out.

2.3. Instruments

2.3.1. Demographic Characteristics

This form is comprised of 13 questions regarding nursing students' sociodemographic characteristics: Age, gender, place of birth, where he grew up and where his family live, monthly income, family income, father's education, mother's education, Non-smoking status, alcohol use.

Information Form About Energy Drinks

The information form about energy drinks is 20 items self-report questionnaire designed to assess the information about energy drinks from the literature was used.

Data Collection

The questionnaires were distributed during class hours, and students were asked to complete and return them at the end of the lesson. The questionnaires were collected by the author after they were completed.

Data Analysis

For data analysis, the SPSS 17.0 software (SPSS, Inc., Chicago, IL, USA) was used. A test of hypothesis with p value of < 0.05 was considered significant. Descriptive statistics were used to determine students' characteristics.

Ethical Consideration

Written permission from Mehmet Akif Ersoy University Ethical Committee (GO 2017/68) and the Mehmet Akif Ersoy University Faculty of Health Sciences was also obtained. The objective of the research was explained to the participants and written permission was received from those agreeing to participate in the research.

3. Results

In our study, a total of 629 students participated in the study. 36.88 % of the students who participated in the study (n=232) male, 62.12 % (n=397) the person is female. The average age of the students who participated in the study 20.99 ± 2.60/year.

In our study of students participating 28.6 % (n=180) non-use. In terms of cigarette use between the sexes the difference was statistically significant (p<0.05). In terms of cigarette use, was found to be higher in women than in men. Cigarette consumption average 16.26 pcs/day. Energy drinks unknown/unheard status 95.6% (n=603) was found in the person of. With the consumption of energy drinks in the people around status 70.3% was. Energy drinks

Table 1. Questions based on awareness, knowledge and awareness about energy drinks

Questions Regarding Consciousness, Knowledge and Awareness	n	%	
Does your energy drink have any harm in the body?	Yes	360	57.23
	No	44	7.00
	I don't know	225	35.77
Are energy drinks covered by halal food?	Yes	82	13.04
	No	217	34.50
	I don't know	330	52.46
Are energy drinks addictive?	Yes	285	45.31
	No	112	17.81
	I don't know	232	36.88
Do you think that energy drink affects the circulatory system?	Yes	482	76.63
	No	25	3.97
	I don't know	122	19.40
Energy drinks is related to psychiatric diseases?	Yes	221	35.14
	No	73	11.61
	I don't know	335	53.26
Do ads affect consumption?	Yes	589	93.64
	No	37	5.88
	I don't know	3	0.48
Is there any quantity restriction on consumption of energy drinks?	Yes	240	38.16
	No	134	21.30
	I don't know	255	40.54
Is there age restriction in energy consumption?	Yes	269	42.77
	No	179	28.46
	I don't know	181	28.78

heard of/known in the case of the difference between the sexes ($p=0.895$) has been observed. Alcohol consumption was 19.7 % ($n=124$). With the use of alcohol between the sexes the difference was statistically significant ($p<0.05$). Males ($n=74$), women ($n=50$) were higher as compared to. Alcohol 13.20% ($n=83$) consume energy drinks. The difference between alcohol and energy drinks was statistically significant ($p < 0.05$). The frequency of energy drink consumption 33.1 % (average: box 1.32/day). The difference between the variable gender was statistically significant (p

< 0.05). Energy drink consumption are found to be in men more than women. Most energy drink use in the state of 21 years of age ($n=44$) has been observed. The difference between the age groups of energy drink consumption ($p=0.728$) are found to be statistically insignificant. Which organs can be harmed by energy drinks? (22.91 % - 19.46 % - 17.86 % - 15.47 % - other organs) in the order of heart, liver, stomach, kidney and brain and other organs (pancreas etc.). The answers given by students to the questionnaire on awareness, knowledge and awareness about energy drinks are shown in Table 1.

The answers given by the students to the questions about the harms of energy drinks are shown in Figure 1. The most commonly known energy drinks among students are shown in Figure 2. Students drink energy drinks mix them with alcohol, what kind of their answer to the question, the percentages shown in Figure 3. What is the reason for preferring energy drinks with alcohol? The question; (57.33 %), no alcohol (11.44 %), no intoxication (5.23 %), alcohol related side effects (4.38 %) and all (21.33 %) for a pleasant aroma.

4. Discussion

Student athletes and active individuals in the age range between 21 and 35 energy drinks in particular has been used quite extensively (Miller, 2008). Şen and colleagues (2015) 750 college students consumption of energy drinks energy drink consumption and consumption behavior investigating their behaviors of students in the study of consciousness does not change according to different age periods; in contrast, according to the daughters of men, college graduates of other school types, according to drinks consumed more energy than those

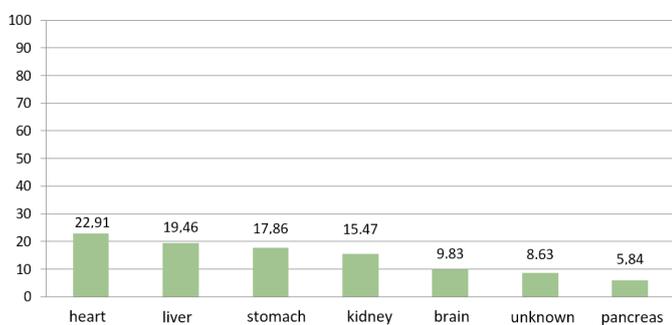


Figure 1. Which organs can harm energy drinks? (%)

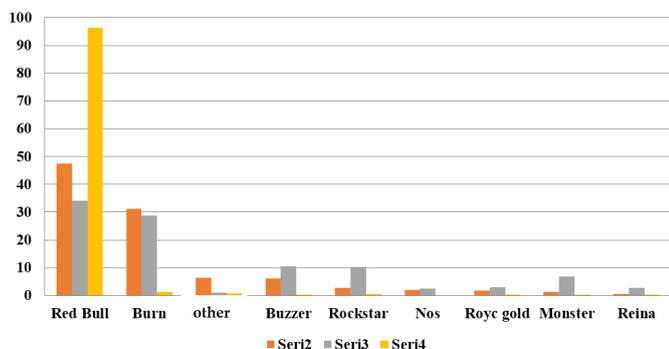


Figure 2. Most known (Series 2), most commonly consumed (Series 3), most advertised (Series 4) (All of the series are given as%)

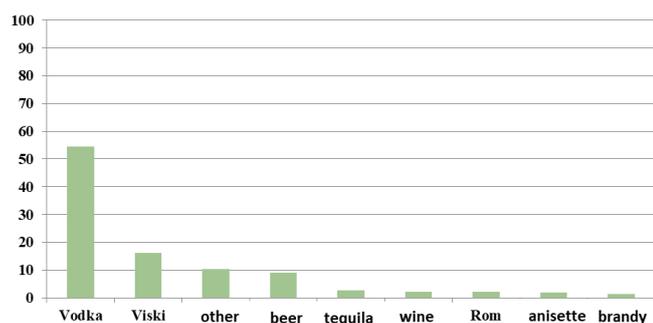


Figure 3. Which alcohol drinks are most likely to drink energy drinks? (Given in %)

without, it was determined that higher monthly income.

In addition, those who use cigarettes than those who use alcohol, according to drinkers of other beverage types according to coffee drinkers, undergraduate students and more than undergraduate students consume energy drinks it was concluded that these differences were found to be statistically significant. The responses to the questions that measured awareness of energy drink consumption are examined, they are not conscious enough about the students surveyed, it was found that consumption of energy drinks. Şen and colleagues (2015) the results of his study data seem to support our work.

Attila and Cakir (2011) study (n=439) regular breakfast non-smoking are not in the habit of regular energy drink consumption among students of arts and sports who play sports has determined that is higher than other peers. According to the results of the work we do, the energy consumption remains unchanged for different students according to age ranges were found. In the same way the men and ladies according to the prevalence is high, have been shown to consume alcohol more often than those who use. Babayiğit and colleagues (2006) in a study of energy drink consumption by 90 ± 440 ml/week/person. In the study we did average in the box 1.32/day/person (1 box:250ml) were found. In our study, the average 330 ml/day/person. According to the data of our sample group, Babayiğit and colleagues consume energy drinks it has been observed that at a higher rate. Babayiğit and colleagues (2006) of his work over 10 years have passed, this topic may be triggered by increased consumption of ad. According to the data of our study, the ads

outweigh the opinion that the consumption of energy drinks may be increased (93.64 %).

Kayapınar and Ozdemir (2016) in the study (n=100) prevalence of consumption of 55 % was seen that was it. Malinauskas and colleagues (2007) in one study (n=496) consumption prevalence of 51%. Arria and colleagues (2010) in a study (n=1060) the prevalence of persons in the class that is consumption by 22.6-36.5 % has shown that the range has changed. We obtain the consumption and the prevalence of Kayapınar and Ozdemir (2016) obtained in 55% of the value is far from. However, Arria and colleagues to work was similar. The reason for this prevalence can be reduced as the number of samples increases. Kayapınar and Ozdemir (2016)'s study, 73 percent in the data if they are knowledgeable about energy drinks, energy drinks, sugar (66%) and caffeine (44%), containing energy drinks which is dangerous for the heart (62 per cent), reduces sleep time (46%) was stated.

As a result, undergraduate students, 55% consume energy drinks and energy drinks because they love the taste of the components and these components revealed that they were unaware of the risks in terms of Health. Polat and colleagues (2013) reported a case report of spontaneous coronary artery dissection in energy drinks which have caffeine have reported that may cause. Wilson and colleagues (2012) reported a case report of coronary artery spasm after the use of two or more energy drinks, Alford and Berger (2009) reporting was observed in other patients' cardiac arrest. Savoca and colleagues (2005) in the study caffeine consumption in adolescents, it has been claimed that especially systolic blood pressure increases. Our sample group 56.63% stated that energy drinks are harmful to the body, and the most

affected organ is the heart and 76.3% is the result of the influencers of the circulatory system. The emergence of psychiatric disorders will lead to? Question 35.14% yes as the answer is taken. Gorgulu and colleagues (2014) presented by a case report of psychosis that could develop after consumption of the energy drink reported. At different times, Iyadurai and Chung (2007) and Nagajothi and colleagues (2008) reported similar cases in the reports of psychiatric disorders have been reported. Although the sample group of health related to 35.14%. This rate was found to be low. All individuals in the age group 20-35 for information about this topic, we believe that the work needs to be done.

Our study, energy drinks unknown/unheard status 95.6 % (n=603) was found in the person of. This situation is related to health education, health literacy is high in the participants of the current developments and suggests that they were following. Consumption of energy drinks with alcohol is subject to. Ferreira et al (2006) in the study of alcohol and energy drink consumption, alcohol intoxication reduces the individual perceptions about some of the symptoms claimed. O'Brien and colleagues (2008) in a study by consumed energy drinks with alcohol in that case, claimed that a significant increase in adverse events was seen. The findings of this study in combination with alcohol energy drinks what could be the reason why it is preferred? The question is; alcohol for the taste and smell of a pleasant aroma cover (57.63 %), more alcohol (11.44 %), not to be drunk (5.23 %), alcohol-related reducing side effects (4.38%), all (21.33 %) were found. Suppression of alcohol intake of alcohol will promote the taste more unpleasant. Individuals with this condition often alcohol-related side effects and reducing

not consume the energy drink to be drunk. One of the findings of the alcohol in the vodka and the other more particularly with the energy is wasted. Content compared to other alcoholic drinks as vodka, the taste is extremely heavy and a stiff drink. Vodka with energy drink is used in the case where the taste of the drink bitterness and harshness are eliminated, and may cause more consumption.

5. Conclusion and Study Limitations

In order to study energy drink consumption among nursing students in this study awareness and habits have been made. According to the research results, the most important issue of concern in conjunction with alcohol energy drinks are consumed. Urban legends and popular culture, in the prevention of intoxication and depressant effects of alcohol are consumed, that imposes energy drinks is useful. Studies support this view, although not alcohol consumption raises the risk of intoxication and injury. Through visual media and written sources, students' consumption of energy drinks and the effects it is necessary to increase the level of knowledge and awareness. This research should be evaluated more extensively with a larger sample. In the future, qualitative studies can be conducted in order to find out energy drink consumption and habits.

References

- Anon., (1998). The Wind which Comes from Austria; Red Bull Energy Drink R. World Food Journal, 14- 31.
- Arria, A.M., Caldeira, K.M., Kasperski, S.J., O'Grady, K.E., Vincent, K.B., Griffiths, R.R., Wish, E.D. (2010). Increased alcohol consumption, nonmedical prescription drug use, and illicit drug use are associated with energy drink consumption among college students, Journal of Addict Medicine. 4(2): 74-80. doi: 10.1097/ADM.0b013e3181aa8ddd4
- Atilla, S., Çakır, B. (2011). Energy-drink consumption in college students and associated factors. Nutrition, 27: 316-322.
- Azagba, S., Langille, D., Asbridge, M., (2013). The consumption of alcohol mixed with energy drinks: prevalence and key correlates among Canadian high school students, CMAJ Open, 19-26.

- Alford, K., Berger, A.J. (2009). Cardiac arrest in a young man following excess consumption of caffeinated "energy drinks". *Med J Aust.*, 190(1):41-3. 25.
- Babayigit, M.A., Oğur, R., Tekbaş, Ö.F., Hasde, M. (2006). Observing non-alcoholic beverage consumption habits and factors effecting these in young male adults . *Genel Tıp Derg.*, 16(4): 161-168
- Dikici, S., Saritas, A., Besir, F.H., Tasci, A.H., Kandis, H. (2013). Do energy drinks cause epileptic seizure and ischemic stroke? *The American Journal of Emergency Medicine*, 31(1):274.
- Ferreira, S.E., Mello, M., Pompeia, S. Souza-Formigoni MLO (2006). Effects of energy drink ingestion on alcohol intoxication. *Alcoholism, Clinical and Experimental Research*, 30(4). 598.
- Ford, M. A., (1999): *Â The Formulation Of Sports Drinks. In: Production And Packaging Of Non-Carbonated Fruit Juices And Fruit Beverages, Â Ashurst P.R. Gorthersburg, Maryland: An Apsen Publication . 311-329*
- Görgülü Y., Taşdelen Ö., Sönmez M, B., Köse Çınar R.(2014) An Acute Psychosis Case Following Energy Consumption, *Neuropsychiatry Archives*. 51: 79-81. Doi: 10.4274/npa.y6772
- Heckman, M., Sherry, K., & De Mejia, E. (2010). Energy Drinks: An Assessment of Their Market Size, Consumer Demographics, Ingredient Profile, Functionality, and Regulations in the United States *Comprehensive Reviews in Food Science and Food Safety*, 9 (3), 303-317 DOI: 10.1111/j.1541-4337.2010.00111.x).
- Iyadurai, S.J., Chung, S. (2007) New-onset seizures in adults: possible association with consumption of popular energy drinks. *Epilepsy Behavior*, 10 (3), 504.
- Kayapınar, F.Ç, Özdemir, İ. (2016). An example of a vocational school in the investigation of students energy beverage consumption awareness and habits. *Ankara Health Services Review*, 15: 1-8.
- Malinauskas, B.M., Aeby, V.G., Overton, R.F., Aeby, T.C., Heidal, K.B. (2007). A survey of energy drink consumption patterns among college students, *Nutrition Journal*. 6:35 doi:10.1186/1475-2891-6-35
- Miller, K.E. (2008). Energy drinks, race, and problem behaviors among college students. *Journal of Adolesc Health*. 43(5):490- 97.
- Nagajothi, N., Khraisat, A., Velazquez-Cecena, J.L., Arora, R., Raghunathan, K., Patel, R., Parajuli, R. (2008). Energy drink related supra ventricular tachycardia. *The American Journal of Medicine*, 121(4), 3.
- O'Brien, M.C., McCoy, T., Rhodes, S.D., Wagoner, A., Wolfson, M. (2008). Caffeinated cocktails: energy drink consumption, high-risk drinking, and alcohol-related consequences among college students. *Academic Emergency Medicine*, 15 (5), 453.
- Polat, N., Ardiç, İ., Akkoyun, M., Vuruşkan, E. (2013). Spontaneous coronary artery dissection in a healthy adolescent following consumption of caffeinated "energy drinks". *Turkish Society of Cardiology*, 41(8):738-742 doi: 10.5543/tkda.2013.37542
- Reissig, C.J., Strain, E.C., Griffiths, R.R. (2009). Caffeinated energy drinks—A growing problem. *Drug and Alcohol Dependence*, 99: 1-10
- Savoca, M.R., MacKey, L., Evans, C.D., Wilson, M., Ludwig, D.A., Harshfield, G.A. (2005). Association of ambulatory blood pressure and dietary caffeine in adolescents. *American Journal of Hypertension*. 18:116-20.
- Şen, L., Dere, H., Şen, İ. (2015). Investigation of Energy Drink Consumption Behaviors Among University Students: The Case of Afyon Kocatepe University. *Turkish Agriculture - Food Science and Technology Review*. 3(6): 394-401. *Turkish Food Codex, Communique on Energy Drinks*,
[http://mevzuat.basbakanlik.gov.tr/Metin.Asp?](http://mevzuat.basbakanlik.gov.tr/Metin.Asp?MevzuatKod=9.5.10679&MevzuatIliski=0&sourceXmlSearch=enerji)
<http://mevzuat.basbakanlik.gov.tr/Metin.Asp?MevzuatKod=9.5.10679&MevzuatIliski=0&sourceXmlSearch=enerji> . Accessed September 04, 2017.
- Wilson, R.E., Kado, H.S., Samson, R., Miller, A.B. (2012). A case of caffeine-induced coronary artery vasospasm of a 17-years old male. *Cardiovasc Toxicol*, 12(2):175-9.