Prevalence Of Energy Drinks Consumption Among Students Of Alkindy Medical College

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ABSTRACT

Background: Energy drinks are non alcoholic beverages which contain stimulant drugs chiefly caffeine and marketed as mental and physical stimulators. Consumption of energy drinks is popular practice among college students as they are exposed to academic stress. Caffeine which is the main constituent of energy drinks could become an addictive substance or cause intoxication.

Objectives: This study aims to assess the prevalence of energy drinks consumption among medical students of alkindy college of Medicine.

Type of the study: A cross sectional study.

Methods: It was performed at alkindy medical college on March 2016. A total number of 600 students were contacted to participate in this study. A self administered questionnaire was used to collect the data. Spss version 18.0 was used for statistical analysis.

Results: Out of 600 students, 501 (83.5%) participated in the study. The majority were females 304 (60.7%) and only 197 (39.3%) were males with a mean age of (20.43 ± 1.74). 120 (24%) of participants had consumed energy drinks at least once. Higher proportion of male students 77 (64%) consumed energy drinks compared to females 43 (36%). Regarding inspiration of first use of energy drinks, the highest percentage 9.8% was due to friends. Majority of consumers 85 (17.2%) used energy drinks irregularly. The main cause of energy drinks consumption was focusing for studying 7.2% (n=36).

Conclusions: Energy drinks consumption is a common practice among medical students. Friends had a strong influence on usage of energy drinks. Students consumed energy drinks mainly for focusing for studying. Further studies are recommended to evaluate factors involved in consumption of these drinks among medical students and their understanding of the risks involved as well as possible interventions to promote safe consumption.

Keywords: Energy drinks, prevalence, medical students, caffeine.

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Energy drinks are non alcoholic beverages which contain stimulant drugs chiefly caffeine and marketed as mental and physical stimulators (WHO Europe, 2014). Over the last two decades energy drinks had experienced dynamic global growth in popularity (Sandra et al., 2015).Many studies found that energy drinks consumption is a popular practice among college students as they are exposed to academic stress particularly those who get insufficient sleep or who need improvement in attention and alertness while studying for exams and also used by athletes who need to enhance their physical performance (Ali et al., 2015). Caffeine which is the main constituent of energy drinks is CNS stimulant and physiologically act as antagonist of adenosine receptors in the brain which is currently the most widely accepted mechanism of its action (Bennett et al., 2001).Adenosine is a neuromodulator with mood depressing, hypnotic and anticonvulsant properties and tends to induce hypotension, bradycardia and vasodilation. Adenosine decreases the rate of spontaneous nerve cell firing and depresses evoked nerve cell potiantials in the brain by inhibiting the release of other neurotransmitters that control the excitability or responsiveness of central neurons. Therefore caffeine achieves most of its stimulant effects by blocking the uptake and the actions of adenosine (Bennett et al., 2001). The Stimulatory effects of caffeine may begin as early as 15 minutes and last as long as six hours. Although moderate doses of caffeine helps to increase alertness and reduce sleepness however regular ingestion of excess amounts of caffeine can lead to problems such as anxiety, insomnia, irritability, headache, confusion, tremors, stomach pain, dehydration, palpitation and rapid breathing (Ananya, 2014). Energy drinks and caffeine in general can become addicting and people can suffer from withdrawal symptoms and develop tolerance for it. Pretty soon, one energy drink is not enough and it has to be two or three to make a difference (Jasvinder, 2015). In Iraq very little concentration has been given on energy drinks and there is not much data available regarding the prevalence and side effects of consuming such drinks. Therefore this study was aimed to estimate the prevalence of energy drinks consumption among medical students of Alkindycollege of medicine in Baghdad/Iraq as medical students already experience increased level of stress and anxiety due to the burden of studying.

Methods: Ethical approval: this research project was approved by Alkindy college of medicine, Baghdad

university and consent was obtained from every participant in the research.

A cross sectional questionnaire based study was performed at Alkindy medical college on March 2016. A total number of 600 students from (1st_6th) grades of alkindy college were contacted to participate in this study. A self administered questionnaire about the prevalence of energy drinks consumption among medical students was used to collect the data. The questionnaire was designed to obtain data on student demographics such as (gender, grade, age and residence), smoking (Yes/No) and if they had ever consumed energy drinks (Yes/No). Participants who answered No would skip the rest of the questions while those who answered affirmatively would complete the questionnaire which evaluate the frequency of energy drinks consumption, inspiration of first use and the reasons for consuming such drinks. All students answered the research questions independently. The data was entered and analyzed through spss(statistical package for the social sciences) version 18.0 . Descriptive statistics which include frequency and percentage were calculated for demographic variables, consumption patterns, inspiration of first use, frequency of consumption and the causes of consumption of energy drinks .

Results: Out of 600 students, 501 (83.5%) participated in the study. The majority of participants were females 304 (60.7%) and only 197 (39.3%) were males with a mean age of (20.45 ± 1.74).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	304	60.7	60.7	60.7
	male	197	39.3	39.3	100.0
	Total	501	100.0	100.0	

Table (1): Demographic data for energy drinks consumption related to gender

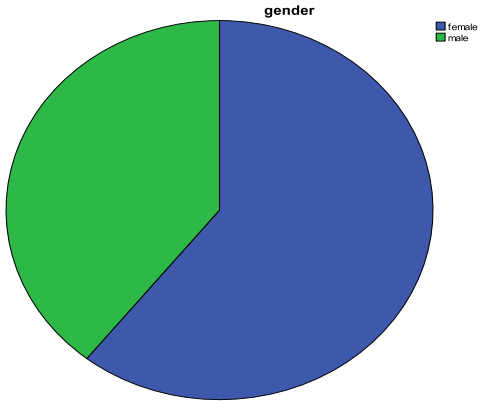


Figure (1): demographic data related to gender

438 (87.4%) of these were still residing with their families while the remaining 63 (12.6%) were away from their families (hostel residence). Only 62 (12.4%) of the total were smokers. 120 (24%) of participants had consumed energy drinks at least once.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	home	438	87.4	87.4	87.4
	hostel	63	12.6	12.6	100.0
	Total	501	100.0	100.0	

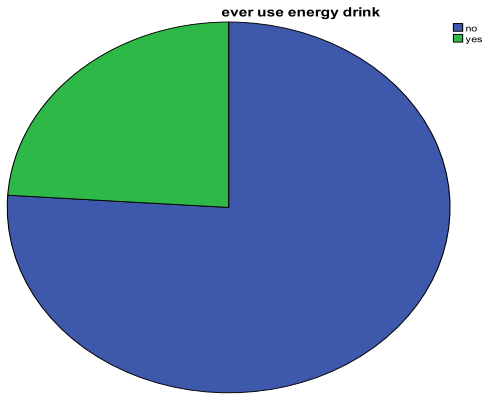
Table (2): Demographic data related to residence.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	439	87.6	87.6	87.6
	yes	62	12.4	12.4	100.0
	Total	501	100.0	100.0	

Table (3): Demographic data related to smoking

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	381	76.0	76.0	76.0
	yes	120	24.0	24.0	100.0
	Total	501	100.0	100.0	

Table (4): Results of energy drinks consumption



Figure(2): patterns of consumption of energy drinks

Regarding the gender of consumers, higher proportion of male students 77 (64%) consumed energy drinks compared to females 43 (36%).

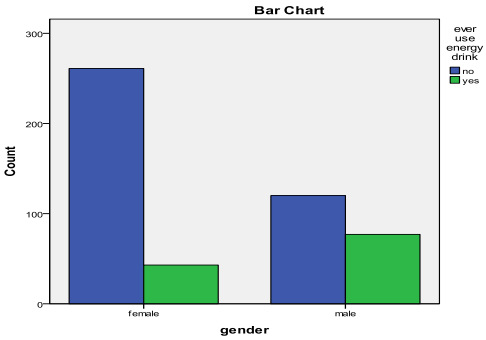


Figure (3): energy drinks consumption in correlation to gender

The highest percentage was (22.6%) among first year students (n=33) while the lowest was 5.8% among sixth year (n=10). 111 of consumers were residing at home.

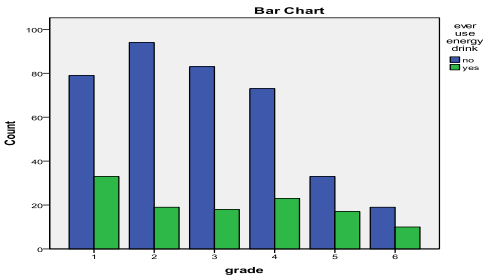


Figure (4): energy drinks consumption in correlation to grade

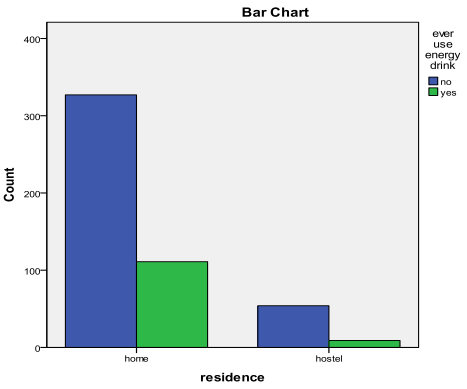


Figure (5): energy drinks consumption in correlation to residence

Only 33 were smokers. Regarding inspiration of first use of energy drinks, the highest percentage 9.8% (n=48) was due to friends while the lowest 1.6% (n=8) was due to movies.

Majority of consumers 85 (17.2%) used energy drinks irregularly and only 6 (1.2%) used them 4-6 times per week.

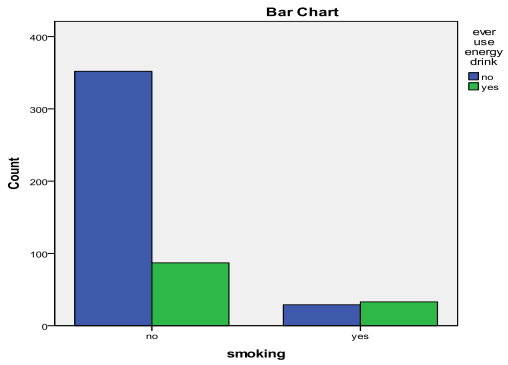


Figure (6): energy drinks consumption in correlation to smoking.

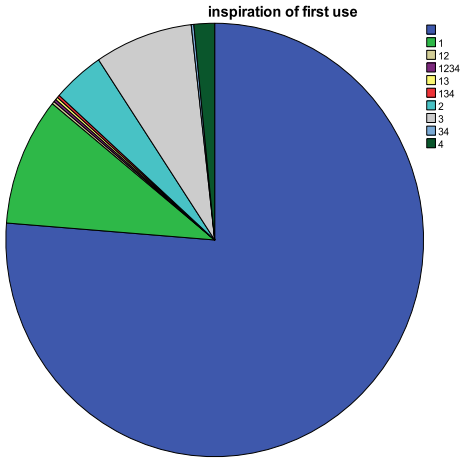


Figure (7): inspiration of first use of energy drinks

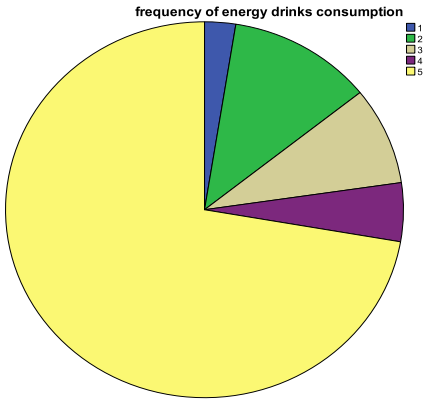


Figure (8): frequency of energy drinks consumption

The main cause of consuming energy drinks was focusing for studying 7.2% (n=36).

Discussionof the results

In this study, 24% of participants consumed energy drinks, 64% were males and 36% were females (table4, figure2 and figure3) which indicate a higher consumption

among males compared to females. This finding agrees with results of a previous study conducted among students of Ghana university which reported (62.2%) of students consumed energy drinks, 82.2% were males and 17.8% were females (Buxton and Hagan 2012). Similar result was obtained from a study conducted among medical students in Jeddah colleges, Saudi Arabia by Nahla et al. (2014) which reported more than one half of participants consumed energy drinks with higher consumption among males compared to females. The reasons that can be given for the higher consumption among males may be because they are physically active compared to females and advertisements of energy drinks usually target primarily young adult males.

Another study conducted among Malaysian students of management and science university reported (83.3%) consumers, however there was an almost equal distribution of consumption between both genders (51%) were males and (49%) were females. Meanwhile, a study conducted in central Atlantic state university reported 51% consumers in which there were more female 53% than male 47% energy drinks users (malinauskas et al. 2007). Our results showed a lower percentage of consumers compared to what other studies have reported.

Regarding (figure 4), the higher percentage of consumers were in the lower grades (mainly in the first grade 22.6%). According to our study (figure 6) there was no correlation between smoking and consumption of energy drinks, in contrast, the study in Jeddah colleges by Nahla et al. (2014) found that there was a correlation.

The present study revealed that friends and curiosity were the commonest inspiration of starting energy drinks consumption and the frequency of consumption was (70%) of irregular routine (figure 7 and figure 8). These descriptions were in parallel with the study done by Nahla et al. (2014).

Figure 9 showed that boosting energy for studying, staying awake for a long time and enjoying time with friends were the most common reasons for consumption from the opinion of participants. This result is similar to that exhibited in previous studies by Nahla et al .(2014) and Aslam et al. (2013).

Conclusion Energy drinks consumption is common practice among medical students. Friends had a strong influence on usage of these drinks. Students consumed energy drinks for different reasons, mainly focusing for studying.

Recommendation: We recommend the need to create public awareness regarding these drinks, especially among adolescents and teenagers as they are exposed to an increasing and easily accessible energy drinks market. Further studies are recommended to evaluate factors involved in consumption of energy drinks among medical students and society ,and their understanding of the risks involved as well as possible interventions to promote safe consumption.

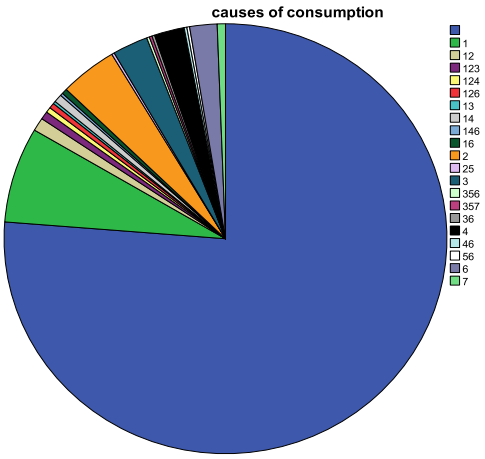


Figure (9): causes of energy drinks consumption

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