

# Awareness of Health Risks Associated with Energy Drink Consumption in Afghanistan

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## Abstract

In addition to examining how awareness, marketing exposure, social influence, and consumption patterns affect perceived health implications, this study looks into Afghanistan's awareness of the health hazards connected to energy drink intake. Despite being linked to negative health consequences like anxiety, cardiovascular problems, and sleep difficulties, energy drinks have grown in popularity due to aggressive marketing and societal acceptance. The study, which used a quantitative method and statistical analysis, discovered that while most people are aware of the health hazards, information by itself does not stop consumption. The most significant element was marketing exposure, which was followed by awareness and consumption patterns. Social influence was less significant. Behavioral insights reveal that advertising and peer norms strongly shape consumption habits, even among informed individuals. The study concludes that marketing and cultural factors override health awareness, sustaining energy drink use despite known risks. These findings highlight the need for public health campaigns, stricter advertising regulations, and community-based programs to promote healthier alternatives. The research offers practical insights for policymakers, educators, and health professionals seeking to reduce health risks linked to energy drink consumption.

**Keywords:** Energy Drink Consumption, Health Risk Awareness, Marketing Exposure, Social Influence, Behavioral Patterns, Regression Analysis, Afghanistan.

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## Introduction

Energy drink use has grown a lot in Afghanistan in the last several years, especially among teens and working adults who want to quickly boost their energy, focus, and alertness. Despite their popularity, energy drinks pose significant health risks due to their high concentrations of caffeine, sugar, and other stimulants such as taurine and guarana. This study examines the inadequate public understanding on the health risks associated with energy drink consumption in Afghanistan, leading to widespread and often uninformed usage. Aggressive marketing, peer pressure, and a lack of governmental oversight make this situation worse. As a result, energy drinks are easy to find and widely accepted in society.

Multiple studies have highlighted the harmful health effects of energy drinks, including insomnia, heart palpitations, anxiety, dehydration, and the risk for lasting cardiovascular and metabolic problems. Mushkani et al. (2025) found that over 67% of university students in Kabul had negative health impacts from consuming energy drinks, however their awareness of the drugs and related risks was significantly lacking. Global research conducted by Bharti et al. (2022) and Ajibo et al. (2024) revealed that adolescents are misusing energy drinks worldwide, frequently due to insufficient knowledge or peer pressure. These findings underscore the urgent need for public health interventions, educational programs, and regulatory actions to reduce escalating consumption and its consequences.

The lack of understanding in Afghanistan is especially concerning because the country's healthcare system is not very good and its young people are quite vulnerable. This study aims to examine the level of awareness among Afghan consumers, assess the relationship between awareness and consumption behaviour, and identify demographic variations in knowledge levels. The goal is to inform stakeholders, such as teachers, doctors, and

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politicians, about major gaps in what the public knows and the need for targeted actions to reduce health risks associated with drinking energy drinks.

### **Societal Relevance of the Study**

The consumption of energy drinks in Afghanistan has undergone a rapid transformation from a specialised habit to a widespread one, with a particular emphasis on the youth, employees, and students. These beverages, which are high in sugar, caffeine, and other stimulants, are often considered to be essential for the management of tension, hunger, and fatigue. Energy drinks are not only prevalent in a country with a weak economy and a scarcity of food, but they are also frequently more readily available at roadside kiosks than pure drinking water (France, 2024). The energy drink industry's expansion in Afghanistan is a sign of a more substantial change in consumer behaviour. Despite the Taliban's efforts to eradicate Western influences, the addiction to stimulant beverages that U.S. forces created has persisted and even increased. Domestic manufacturing has experienced a significant increase. According to Palmer (2024), the market is currently dominated by local brands such as Commando, Attack, Predator, and Hit, with factories in Herat reportedly manufacturing 24 energy drinks per second. Currently, there are more than 40 distinct varieties of energy drinks available in city stores, and energy drink billboards outnumber government advertisements (Hartman, 2024).

A big reason why these drinks are so popular is that they are cheap. Local brands cost about 30 Afghani (about \$0.40), which makes them affordable for even the poorest people. However, international brands like Red Bull and Monster are still too expensive for most people (Palmer, 2024). Many Afghans, especially those who don't have enough food or work long hours, use energy drinks as dietary supplements. According to the World Food Program, 86% of Afghan households rely on less expensive and less desirable food. More than a third of these households eat less often, and more than half eat smaller portions (France24, 2024). This study is very important for Afghan society since it fills a big vacuum in public knowledge about the health risks of drinking energy drinks. Many people don't know that using them a lot might cause problems like insomnia, heart palpitations, anxiety, and long-term heart problems. The normalisation of energy drink usage among children and teenagers, with some individuals taking as many as four cans per day (Hartman, 2024), presents urgent public health problems.

Additionally, market forecasts indicate that the energy drink market in Afghanistan will continue to expand until 2031, with a greater emphasis on product, packaging, and distribution channel segmentation (6Wresearch, 2025). This increase underscores the significance of targeted health education, regulatory supervision, and informed consumer behaviour. The objective of this investigation is to offer practical insights to public health professionals, educators, and legislators by analysing consumption patterns and knowledge levels. It seeks to close the distance between individuals' knowledge and their actions in the face of rapid changes in industry and culture by advocating for safer choices and fostering a culture that prioritises health.

### **Importance of the Problem**

Afghanistan's rising energy drink usage is a serious public health concern that requires quick attention. These drinks are often consumed by young people, students, workers, and even kids as a short-term solution to stress and exhaustion or as a substitute for a healthy diet. The high concentrations of sugar, caffeine, and other stimulants that are frequently present in energy drinks can lead to a number of health problems. These include higher heart rate, anxiety, dehydration, sleep difficulties, and chronic cardiovascular issues. Despite these risks, a large number of Afghan customers are ignorant of the possible negative effects of regularly consuming energy drinks. This problem is especially important in Afghanistan due to the lack of widespread health education and the nation's inadequate healthcare system. People often use energy drinks without knowing what's in them or the possible health risks. The price and availability of locally produced energy beverages have made them accessible to all societal sectors, including those with low incomes. As a result, consumption has increased more quickly, especially among young people who are more vulnerable to peer pressure and commercial influence.

The growth of the energy drink industry in Afghanistan has made the issue worse. Local factories create thousands of cans everyday, and new brands regularly enter the market. Due to the intense competition brought forth by this growth, marketing methods frequently put sales ahead of customer safety. Without sufficient regulation and public knowledge, it is anticipated that the health concerns linked to energy drink intake will increase. Understanding Afghan consumers' levels of awareness is essential to developing successful public health policy. The purpose of this study is to determine knowledge gaps across various demographic groups and investigate how awareness affects consumer behaviour. The results will make it easier to develop focused educational initiatives and policy suggestions that encourage wise choices and reduce health risks. Addressing this issue is essential to improving personal well-being and achieving more general public health objectives in Afghanistan.

### **Research Questions**

1. What is the level of awareness among the Afghan population regarding the health risks associated with energy drink consumption?
2. Is there a significant relationship between individuals' awareness of health risks and their energy drink consumption behavior in Afghanistan?
3. How does awareness of health risks related to energy drink consumption vary across different demographic groups

### **Research Objectives**

To determine the extent of awareness regarding health risks associated with energy drink consumption in Afghanistan.

### **Hypothesis**

1.1 The majority of the Afghan population has low awareness of the health risks associated with energy drink consumption.

1.2 The majority of the Afghan population has high awareness of the health risks associated with energy drink consumption.

### **Significance of the Study**

There are several reasons why this research is important. It first fills a big hole in Afghan public health research by looking into how aware people are of the health risks that come with drinking energy drinks. Research done all around the world has shown that energy drinks can be bad for your health, but there isn't much evidence on this in Afghanistan, where more and more teenagers and working adults are using them. The research offers localised insights that can guide culturally appropriate therapy by concentrating on this specific environment. The results of this study will help create effective health education programs in the future. Policymakers, educators, and healthcare professionals can create targeted campaigns that clear up misunderstandings and encourage people to make educated choices by finding out how much certain demographic groups know. This is especially crucial in Afghanistan, where most people don't know much about health and schools and the media don't do a lot to teach people how to stay healthy.

Third, the findings possess practical consequences for regulators and industry stakeholders. The swift growth of the energy drink industry in Afghanistan, coupled with assertive marketing and inadequate labelling rules, presents considerable hazards to consumer health. This research can inform the formulation of legislation that restricts advertising, mandates transparent labelling, and limits sales to vulnerable populations, such as minors, by detecting knowledge deficiencies and consumption patterns. This study contributes to academic literature by examining the correlation between awareness and consumption behaviour in a developing nation context. This establishes a basis for subsequent study on behavioural health, nutrition, and consumer education in Afghanistan and other contexts. Ultimately, the findings of this study possess the capacity to mitigate health hazards, enhance public welfare, and guide long-term policy formulation.

### **Related Study**

According to a study by Mushkani et al. (2025), a sizable portion of students who want more energy and concentration use energy drinks that contain substances like sugar and caffeine. The study looked at university students' awareness, usage, and health effects in Kabul, Afghanistan. Nearly all male students drank energy drinks, with more than half of them doing so frequently, according to the poll, which was carried out at three significant universities. Some of the most common reasons were to boost energy, like the taste, or stay focused during tests. However, 67% of respondents said it made them feel ill, including heart palpitations and insomnia. Most students knew that sugar and caffeine were important nutrients, but they didn't know about the other ingredients. The findings show that Afghan adolescents must quickly gain a stronger grasp of public health and be capable of making educated decisions regarding their consumption.

According to Bharti et al. (2022), energy drinks, which have a lot of sugar and caffeine, have become a major public health problem, especially among teens. The study in Abha City, Saudi Arabia, looked at how well students understood what was in energy drinks and how they could be bad for your health. The 602 people who took part mostly knew that the drink had sugar in it, but some also knew that it had other ingredients like caffeine, citric acid, and other chemicals. A lot of people knew that energy drinks could be bad for them, but not many knew that they also had some health benefits. These results show how important it is to do health promotion activities and teach kids about energy drinks as part of school programs to lower their use and raise knowledge. In 2021, Khan et al. looked into the health effects of sugary drinks on kids, pointing out that these

drinks are a major source of added sugars in kids' meals. Even though most study is currently focused on adults, this review shows how children are especially vulnerable when it comes to nutrition and metabolism. The study looks at world consumption trends and finds that it is going down in the US, UK, and Australia, but going up in Mexico and South Korea. The study brings up important health issues, such as early puberty, metabolic syndrome, childhood obesity, and oral problems. There are also factors that can affect things like gender, parental perceptions, and financial situation. The writers stress how important it is to include behavioural and social factors in therapies for kids and ask for more long-term research.

Al Shaar et al. (2017) did a restricted review to assess the health repercussions and public health issues connected with the consumption of energy drinks (ED) in the United States. The review shows that individuals are growing increasingly concerned about the negative health effects of EDs, including risky behaviours, poor mental health, heart problems, and issues with the kidneys, metabolism, and teeth. Sugar and coffee have been extensively studied, while other additions have received less attention. According to the authors, excessive marketing directed at young people and a lack of government oversight are the main causes of these health issues. They also talk about how more and more people are combining alcohol and EDs, which is quite dangerous. The research suggests that authorities take action to address these issues, including creating a separate regulatory category for energy drinks (EDs), limiting caffeine, forbidding minors from buying alcohol, and controlling marketing strategies. In order to update earlier research on the behavioural and health effects of energy drink (ED) intake among children and adolescents up to age 21, Ajibo et al. carried out a systematic investigation in 2024. There were 57 studies in the review. They discovered that guys were more likely than girls to use EDs. Risky behaviours like smoking, drinking, using drugs, and breaking the law were closely associated with ED use. It was also linked to poor sleep quality, insufficient sleep duration, and poor academic performance. Concerns were also raised regarding an increased risk of suicide, psychological distress, symptoms of ADHD, panic attacks and depression, allergic diseases, insulin resistance, and dental problems. The authors stress the need for more long-term research in order to prove a relationship between two events. Additionally, they advise using the cautious approach while establishing regulations, such as prohibiting children from purchasing EDs. Aonso Diego et al. (2023), carried out a comprehensive systematic review and meta-analysis to estimate the global prevalence of energy drink (ED) consumption across different continents and age groups. Analyzing data from 192 studies involving over 1.1 million participants, the study found that 54.7% had consumed EDs at least once in their lifetime, 43.4% within the past year, 32.3% in the past month, 21.6% in the past week, and 8.82% reported daily use. The highest consumption rates were observed among adolescents and young adults. Significant regional differences were also noted, with North America showing the highest lifetime prevalence. The findings underscore the widespread use of EDs globally and highlight the need for targeted public health interventions, especially for younger populations.

Williams, K. (2022) conducted a population-based cross-sectional research among A study in Tamale Metropolis involved 541 individuals aged 15 to 45 to evaluate the prevalence, consumption patterns, attitudes, and associated factors regarding energy drink usage. The results indicated that 98.7% of participants had consumed energy drinks at least once, and 78.7% of individuals regularly consume them. Although adverse effects such as insomnia (60.6%) and restlessness (51.4%) were noted, energy drinks were predominantly regarded as enhancers of energy (81%) and reducers of stress (62.3%). Even though most people knew that caffeine was a major part of EDs, 83.4% of the people who took part did not understand how to classify EDs, what they are made of, their bad effects, or their advantages. Age, marital status, educational attainment, work intensity, exposure to eating disorders at social events, and amount of knowledge were significant factors affecting eating disorder intake. People who didn't go to school, people who worked a lot, people who were unmarried, and people who were between the ages of 26 and 35 drank a lot more. The report stressed the need for focused public health advocacy and legislative measures to reduce the use of energy drinks and protect the health of young people. Mohammed (2024) conducted an analysis to evaluate customers' awareness of the health concerns and ingredient composition of energy drinks in Ghanaian Zongo villages. The findings revealed a significantly low degree of consumer awareness regarding the potential health risks and the common ingredients found in energy drinks, such as caffeine, taurine, and guarana. A lot of people are drinking these drinks more, but many of them don't know what's in them or how bad they may be for you if you drink them too often. The survey showed a worrying trend of more people drinking energy drinks because they are curious, their friends are doing it, or they see ads for them in the media. They don't think about the health hazards. Health effects that have been documented include insomnia, palpitations, more frequent urination, and a range of cardiovascular and metabolic issues. The author stressed the need for public health activities, such as educational campaigns and rules, to help people learn more about energy drinks and lower the health risks that come with using them. The study recommended producers to clearly identify ingredients and health warnings so that consumers could make smart choices.

## Data and Methodology

### Sampling Size

Utilizing Cochran's formula, the research calculates a sample size of 384 participants, given the unknown total population size, with a 95% confidence level and a 5% margin of error, offering maximum variability. This sample will be selected from a diverse array of friends and colleagues across Afghanistan, ensuring a broad demographic spectrum. The methodology is designed to furnish comprehensive insights and a robust analysis to evaluate the awareness of health risks tied to energy drink consumption.

Sampling is the process of selecting a portion of the population to represent the whole, often to make inferences about population behaviors or characteristics (Biondo et al., 1998). For this study on the awareness of health risks associated with energy drink consumption in Afghanistan, a random sampling technique has been employed. This approach ensures that the diversity across different demographics and regions is maintained.

Initially, key contacts were identified, considering accessibility and the potential reach across various Afghan communities and networks. In the first step, informal permissions to distribute the survey were obtained through direct communication with these contacts. Subsequently, the questionnaires were disseminated via Google Forms to randomly chosen participants who had been previously informed about the study's purpose. This methodology was designed to enhance participation rates and ensure the accurate representation of energy drink consumers in Afghanistan.

## Results and Discussion

**Dependent variable**= Health Impact (HI)

**Independent variable**= Awareness Level (AL), Consumption Pattern (CP), Social Influence (SI), Marketing Exposure (ME).

**Population**= Energy drink consumers

**Country**= Afghanistan

### Proposed Regression line

$$HI = B_0 + B_1 (AL) + B_2 (CP) + B_3 (SI) + B_4 (ME)$$

$$HI = 7.544 + 0.459 (AL) + 0.376 (CP) + -0.076 (SI) + 0.701 (ME)$$

This can be interpreted as 1 unit change in AL, CP, SI and ME will bring about 0.459, 0.376, -0.076 and 0.701 units changes in HI respectively.

The dependency effects of Health Impact on dimensions like Awareness Level, Consumption Pattern, Social Influence and Marketing Exposure among consumers of energy drinks is defined in hypothesis-1.1 and hypothesis 1.2, taken up and its results are shown in the table 45, as an outcome of multiple regression model conceptualized. From the results, it can be inferred that the F value of 94.989 is found to be significant at 5 percent level and hence, the hypothesis 1.1 is rejected and hypothesis 1.2 is accepted. These results suggest that health impact depends on the group of 4 Health Impact dimensions of energy drink consumers. Further, the adjusted R square value of 0.495 from the table 45 indicate that 50 percent of health impact depend on these group of 4 dimensions in Afghanistan. Also, the 't' values of 6.906, 6.477, -1.376 and 11.523 corresponding health impact dimensions such as Awareness Level, Consumption Pattern, Social Influence and Marketing Exposure are found to be having significant effects on the model conceived. More specifically marketing exposure among energy drink consumers in Afghanistan is found to be having significant superior effect of health impact with highest value of 11.523. This clearly confirms the strong influence of marketing exposure on energy drink consumption in Afghanistan. People frequently encounter advertisements on television, radio, social media, and even on streets and highways, which significantly shape their purchasing decisions. Marketing campaigns are designed to attract young consumers, creating trust in advertised claims despite exaggerating product benefits. Such exposure not only increases visibility but also reinforces behavioral patterns that overlook potential health risks. The regression analysis demonstrates this effect with the highest t-value of 11.523, indicating that marketing exposure is the most dominant factor influencing awareness and consumption. One of the critical consequences of this trend is the growing need for effective health communication and regulatory measures to counter misleading marketing practices and protect public health.

Similarly, Awareness Level among energy drink consumers in Afghanistan significantly good effect on health impact with the next higher t value of 6.906. Consumers who recognize that energy drinks contain high levels of caffeine and sugar, understand associated risks such as insomnia, heart palpitations, and anxiety, and acknowledge their unsuitability for children exhibit stronger health-conscious attitudes. This awareness, often informed by reliable sources and scientific studies, plays a critical role in shaping responsible consumption behavior. The findings suggest that improving public knowledge about cardiovascular and other health risks can substantially reduce harmful consumption patterns.

Table 1: Results of the regression for hypothesis-1.1 and 1.2						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.708a	.501	.495	4.02919		
ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6168.328	4	1542.082	94.989	.000 <sup>b</sup>
	Residual	6152.829	379	16.234		
	Total	12321.156	383			
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.544	1.970		3.829	.000
	Awareness Level	.459	.067	.265	6.906	.000
	Consumption Pattern	.376	.058	.313	6.477	.000
	Social Influence	-.076	.055	-.070	-1.376	.170
	Marketing Exposure	.701	.061	.495	11.523	.000
a. Dependent Variable: Health Impact						

The 't' value of 6.477 obtained for the consumption pattern among energy drink consumers in Afghanistan causes considerable health impact. Individuals who frequently consume energy drinks when feeling tired or stressed, prefer them over other beverages, and prioritize taste over health concerns exhibit behaviors that increase potential health risks. Easy accessibility and rising consumption trends further reinforce these patterns, indicating that habitual use is a critical factor influencing adverse health outcomes. These findings highlight the need for targeted interventions to address consumption habits and promote healthier alternatives.

Finally, social influence among energy drink consumers in Afghanistan shows a negative but notable effect on health impact, with a t-value of -1.376. Individuals who began consuming energy drinks due to peer encouragement, perceive them as socially accepted, and associate them with youth culture are more likely to maintain consumption habits during social gatherings. These behaviors suggest that social norms and peer pressure play a role in shaping consumption patterns, even when health risks are known. This finding emphasizes the importance of addressing cultural perceptions and peer-driven behaviors through community-based awareness programs.

## Conclusion

This study examined the awareness of health risks associated with energy drink consumption among Afghan consumers and explored how awareness, marketing exposure, social influence, and consumption patterns relate to perceived health impacts. The findings reveal that while awareness levels are generally high most respondents recognize the presence of caffeine and sugar and acknowledge potential health risks this knowledge does not fully deter consumption. Behavioral drivers such as taste preference, social acceptance, and marketing influence continue to play a significant role in shaping consumption habits.

Regression analysis confirmed that marketing exposure is the most dominant predictor of health impact, followed by awareness and consumption patterns, whereas social influence showed an insignificant effect when other factors were controlled. Correlation results further highlight strong associations between marketing exposure and health impact, as well as between consumption patterns and social influence, underscoring the interplay between promotional strategies and peer norms in sustaining energy drink use.

Demographic analysis indicates that consumption and awareness vary significantly across age, education, employment status, income, and location, suggesting that targeted interventions are necessary. Despite high awareness, nearly half of respondents reported experiencing health issues such as poor sleep quality, anxiety, and weight gain, and a notable proportion expressed feelings of dependency.

Overall, the study concludes that knowledge alone is insufficient to change behavior in the presence of aggressive marketing and social pressures. Addressing these challenges requires a multi-stakeholder approach involving public health authorities, educational institutions, policymakers, and community leaders to implement awareness campaigns, regulate marketing practices, and promote healthier alternatives. These measures are essential to mitigate health risks and foster informed decision-making among Afghan consumers.

## Conflict of Interest

The authors affirm that no conflicts of interest are linked with this publication. The research was conducted autonomously without financial or non-financial assistance from external entities.

## Author Contribution Statement

The author meticulously crafted the study, devised the methodology, executed the investigation and data analysis, composed the original manuscript, and undertook the review and editing of the document. The author autonomously executed every aspect of the research and the development of the manuscript.

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