The effect of energy drinks on the digestive system

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Abstract: *Consumption of energy drinks has been increasing dramatically in the last decades, particularly amongst adolescents and young adults. Energy drinks are aggressively marketed with the claim that these products give an energy boost to improve physical and cognitive performance. However, several adverse health effects have been related to energy drink, this has raised the question of whether these beverages are safe?! This review will carry out to identify and discuss the articles that examined the beneficial and adverse health effects related to energy drink. Although energy drink may have beneficial effects on physical performance, these products also have clear deleterious health consequences.*

Key words: *energy drinks, adverse effects,energy boosts, caffeine, sugar, sucrose, glucose,fructose, obesity,type 2 diabetes, insulin sensitivity, allergic shock,taurine,ginseng,ginkgo biloba,death.*

Introduction: An energy drink is a type of drink containing stimulant compounds, usually caffeine, which is marketed as providing mental and physical stimulation. They are also be carbonated contain sugar, other sweeteners and herbal extracts among numerous possible ingredients. They are

larger group of energy products, includes many brands and varieties in this drink category,common ones:Red Bull,Adrenaline,Flesh and so on. When energy drinks were first produced, almost no one consumed them, but in the last 20 years, their demand has increased several times. At first, their consumers were only sportsmen, Manufacturers recently have shifted their consumer focus from sportsmen to young people. Energy drinks are aggressively marketed in places popular with teens and young adults. Approximately, two thirds of energy drink consumers are 15–35 years old, and boys are two thirds of the market. Energy drinks give an "energy boost" to the drinker by a combination of stimulants and energy boosters. The major ingradient in most energy drinks is caffeine. They usually contain much more caffeine in a small parts. Most of the brands contain large amounts of glucose while some brands offer artificially sweetened versions. Other commonly used constituents are taurine, ginseng, ginkgo biloba and so on.

Currently, significant concerns have been raised about the safety of these products. There have been several reports that showed adverse health effects associated with energy drink. Despite this, manufactures of energy drinks claim that these products are safe for consumers.

The effect of energy drinks is mainly observed in the cardiovascular system: an increase in heart rate and arterial blood pressure. However this effect first starts from the digestive system. In this article, we describe the effects of energy drinks on the digestive system that we have observed and identified. For one,caffeini is a stimulant that increases gut motility or the contraction of the muscles in the gastrointestinal tract.This stimulating effect may lead to loose stools or diarrhea which can contribute to dehydration. Dehydration causes severe metabolic acidosis and alkalosis in the body, which can be life-threatening. Caffeine is also a diuretic, which means it makes you produce more urine than you usually would. Caffeine intake also decreases insulin sensitivity, which could explain the rise in blood glucose levels after energy drink consumption, therefore, high energy drink intake may increase the risk of obesity and type 2 diabetes.For second, Energy drinks usually contain large amounts of sugar. The sugar content

is mainly in the form of sucrose, glucose or high fructose. Therefore, high energy drink intake increase two times the risk of obesity and diabetes together with caffeine. In addition, it disrupts the normal intestinal bacterial flora and creates conditions for the growth of pathogenic bacteria. This can inflame the intestinal mucosa and cause enteritis, colitis, and later ulcer diseases. The ingredients in energy drinks can irritate your gastrointestinal (GI) tract. According to observed clinics other digestive issues that have been linked to high caffeine intake include:

1. abdominal pain
2. gastritis
3. GI upset
4. rash
5. nausea
6. vomiting

In clinical practice, a 21-year-old boy, despite having a stomach ulcer, drank an energy drink under the Adrenaline brand, and immediately developed a very strong twisting pain in the abdomen, spasmolytics and other pain relievers did not have an effect, only narcotic analgesics stopped the pain. After 40 minutes, red rashes of different shapes and bumps on the skin began to flow, and it became difficult to breathe. The patient's condition improved after the necessary medical procedures were carried out.

Drinking too much energy drinks among young people is causing early gastritis and duodenitis. Accumulation of gas in the intestines, meteorisme, constipation or diarrhea are often observed in clinical practice.

Conclusion: To conclude, the consumption of energy drinks can indeed lead to digestive issues or gastrointestinal problems. These beverages typically contain high amounts of caffeine, sugar, and artificial additives, which can disrupt gut microbial balance, cause irritation in the digestive tract, and trigger symptoms such as abdominal pain, nausea and diarrhea. Certainly, the high sugar and caffeine content in energy drinks can have negative effects on gut health when consumed in excess. Therefore, moderation is key to maintaining

a health while enjoying energy drinks. According to clinical observations, we recommend limiting the consumption of energy drinks among young people, strengthening parental control and reducing their number in sales stalls.

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