

ENERGY DRINK FROM HIBISCUS FLOWER

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ABSTRACT

Energy is needed to keep up with hectic day-to-day life and to rejuvenize it again. Energy is obtained from the intake of food, but there is a time period between the Ingestion and Absorption process of food, while at times we feel short of energy or need instantaneous energy. Our energy drink from hibiscus flower is an experiment to make energy drink which not only relishes mind but also provides nutritive supplements from it.

Hibiscus Sabdariffa is commonly known as Lal Ambari or in Marathi it is known as Jaswand. This is an Herbaceous shrub, annually available. The petals of the hibiscus flower can be used as a refrigerant in the form of energy drinks. The raw Hibiscus flower contains Proteins, Fats, Carbohydrates, Flavonoids, Acids, Minerals and Vitamins. The flower also has Antihypertensive, Hepatoprotective, Antihyperlipidemic, Anticancer and Antioxidant properties. Also, The Hibiscus flower is used in holy work so the present paper is to use this holy flower for its nutritive values.

Keywords: Herbal medicine, Hibiscus sabdariffa, Jaswand, Lal-ambari, Patwa, Red sorrel.

I.INTRODUCTION

Energy drinks are a type of beverages used to provide an extra boost in energy. It promotes wakefulness, maintains alertness and mood enhancement. Energy drinks contain caffeine, taurine, l-carnitine etc as their main constituents. In this caffeine has a primitive role to promote energy. It acts by blocking Adenosine, a chemical in the brain involved in sleep. When it blocks this chemical, it causes the Neurons to get fired up or wake. As this happen the emergency Pituitary gland releases Adrenaline hormone. This hormone makes the heart beat faster and also dilates eyes. It also causes the liver to release a large amount of glucose level in the blood vessels. It affects Dopamine, another chemical in the brain which makes us feel active or fresh^[1]. Various researches held on the energy drinks have shown harmful effects of these drinks on health, as they contain these Taurine or Ginseng as their stimulants.

So, Our Aim is to make a replacement for all these stimulants and yet provide the same boost in energy that we get by consuming an usual energy drink. So, we have attempted to make a drink that naturally stimulates the body and improves the Physical and Mental Performance without having an adverse effect on Health. Thus We have made an attempt to substitute the stimulants by The HIBISCUS FLOWER.

The large colorful blossoms of the flower makes it attractive. These blossoms have great Medicinal uses via. its seed, its leaves, its red pigmentations, the seed's oil, etc. The flowers and leaves can be made into energy drink

and liquid extracts that can help treat various conditions. Hibiscus flower contains Hibiscus Acid which helps to form a energy drink. The purpose of this energy drink is because of fruitier advantages on health and it is Cheap. This Energy drink is made from organic contents so it does not harm the human body but it provides various nutrition's from Hibiscus flower and also suitable to consume during all seasons irrespective of conditions.

1.1 Nutritional data in Hibiscus flower^[2]:

- Ash - 0.51 g
- Calcium, Ca - 215 mg
- Carbohydrate, by difference - 11.31 g
- Energy - 205 kJ
- Energy - 49 kcal
- Iron, Fe - 1.48 mg
- Magnesium, Mg - 51 mg
- Phosphorus, P - 37 mg
- Potassium, K - 208 mg
- Protein - 0.96 g
- Riboflavin - 0.028 mg
- Sodium, Na - 6 mg
- Thiamin - 0.011 mg
- Total lipid (fat) - 0.64 g
- Vitamin C, total ascorbic acid - 12.0 mg
- Water - 86.58 g

II.INGREDIENT REQUIRED

- Hibiscus flower petals
- Water
- Salt
- Honey as a natural sweetener
- Lemon Juice
- Caffeine
- Calcium (400mg)
- Iron(2mg)

III.PROCEDURE

- First, put the hibiscus petals in hot water until the colors are leached from petals.
- Then add 1/8 teaspoon salt in the color solution.
- Add 2 tablespoons natural sweetener (honey)

- Add lemon juice and stir well the mixture. After adding it color of drink turns from dark brown\red to bright red.
- Add caffeine not more than 200mg to make energy drink effective.
- Add calcium and iron.
- Finally, add cold water or ice cubes.
- In this way, your energy drink is ready to drink.
- Use of calcium in the drink :

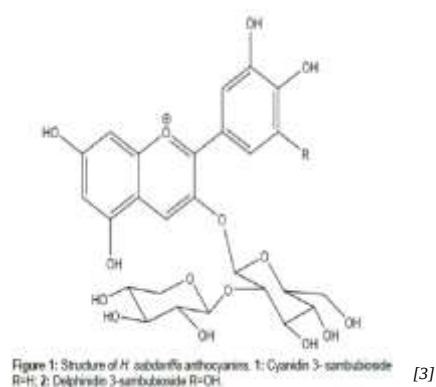
Taurine stimulates the release of calcium from the Sarcoplasmic Reticulum. As we are not using Taurine, we are externally adding calcium which functions same as the taurine. Calcium also helps in Healthy Bone Development and helps prevent Osteoporosis. Hibiscus contains 215mg and an external 400mg is added to the drink so that the intake is within the adequate levels. Below table shows the intake capacity of calcium^[4].

AGE:	Men daily intake (mg)	Women daily intake(mg)
19-50 years	1000	1000
51-70 years	1000	1200
71 and older	1200	1200

- Use of iron in the drink:

When oxygen gets bind to the cells, red color comes from the Hemoglobin. Iron is part of hemoglobin. When the body falls short of Hemoglobin, the rate at which oxygen reaches the cells decreases. This results in low energy, pale skin and fatigue, the main symptoms of iron-deficiency anemia. So iron elevates the energy level. And hence we have included iron. The intake of iron should not exceed more than 10mg per day at an average age ratio, Thus 3mg of an external iron supplement is given.

IV.DIAGRAMS





The Energy Drink

V.CONCLUSIONS

The Hibiscus flower exerts mild diuretic properties and also has a strong anti-inflammatory action. It contains 12 mg Vitamin C for every 100g of raw hibiscus. Vitamin C is anti-inflammatory antioxidant with microbial and immunity boosting properties. Hibiscus also contains Magnesium which ensures good heart health and healthy muscles. Hibiscus has great tonic Properties also. Hibiscus has a great number of Antioxidants which makes it have so many healing properties. Antioxidants such as Anthocyanins , Protocatechuic acid, Quercetin glucoside (Quercetin), Chlorogenic acid, Neochlorogenic acid, Cryptochlorogenic acid, Kaempferol. Anthocyanins are released from the red pigments of the flower.

The Free Radical Molecules cause damage to the blood cells and DNA, while this may turn the cell to become cancerous. A study done by the Department and Institute of Biochemistry at the Chung Shan Medical and Dental College, in Taichung, Taiwan suggests that hibiscus slows down the growth of cancerous cells by inducing apoptosis, commonly known as programmed cell death. , Antioxidants prevent the radicals causing damage from doing this .

5.1 Advantages:

- Hibiscus is a flower that is rich in antioxidants.
- It cures the sore throat, cough, minor cold, headaches, etc as it is a rich source of Vitamin C.
- Protocatechuic acid shows Anti-tumor properties, which also helps to maintain hormone balance so works over problems like mood swing, depression, etc.
- It helps to repair free radicals damage, your energy levels naturally grow up.
- Consumption of this drink calms down the nervous system and hence helps reduce Anxiety, Hypertension.
- It helps to the boost level of immunity of the body.
- It diuretic properties heals problems such as Diabetes, Constipation, improves the health of the gastrointestinal system and avoids colorectal cancer and also regulates Blood Pressure.
- Comparison with the Captopril (a medication for BP): Captopril reduces BP by 79% while the contents of Hibiscus helps it to lower by 84%.
- The antioxidant properties also helps heal various liver problems and slows ageing.
- It helps in weight loss as it lowers the consumption levels of starch and sugars in the body.
- It is similar to a red wine as it helps to lower cholesterol level.
- It regulates the body temperature. It helps to flush out excess body heat in summers makes it a good energy drink.
- Consumption of drink helps maintain body's fluid balance.
- It is also inexpensive and suitable for all seasons.

Thus, we can say that this energy drink can surely serve to a better health and life.

2. Limitations

- Hibiscus drink lowers down estrogen levels and especially who use hormone substitution therapy for birth.
- It is not preferable during Pregnancy.
- It is believed that it may lower fertility both in men and women.
- It can lower blood pressure (hypotension) and effects of dilation on blood vessels.
- It has hallucinatory effects also^[5].

3. Further Work :

- Vitamin C, Calcium, Niacin, Riboflavin and Group of Flavonoids are responsible for dark red color. Energy Drink can be made by adding different flavors such as strawberry, banana, orange, cloves, cinnamon, etc.
- This Energy Drink can help to inhibit Tumor of Cancer. Hibiscus flower consists of a substance called Gossypin which can suppress inflammation against Cancer. It has the ability to stop cancer cells from growing^[6].

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