

How to Cite:

Kumar, R., Singh, N. P., Mukopadayay, S., & Sah, R. P. (2022). Ethnomedicinal and pharmacological properties of Hibiscus Sabdariffa: A review. *International Journal of Health Sciences*, 6(S3), 9744–9758. <https://doi.org/10.53730/ijhs.v6nS3.8551>

Ethnomedicinal and pharmacological properties of Hibiscus Sabdariffa: A review

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Abstract--Nowadays beverages are consumed which has high bioactive compound. Both cocoa and Hibiscus-flower extract have high antioxidant effect and their combined effect increases the free radical scavenging potentials of the beverages. Hibiscus Sabdariffa has various effect such as Anti-hypertensive effect, Anti-oxidant effect, Diuretic effect, Anti-spasmodic effect etc. The dried flower extract is used to prepare various Tea, Syrup, Jams-jellies and beverages. The phytochemicals studies have found that it contains alkaloids, tannins, saponins, glycosides, phenols and flavonoids. Daily intake of Hibiscus tea, an amount readily incorporated into diet, effectively lowered BP in mild hypertensive adults and has anti-oxidative properties. Nutritionally, Hibiscus Sabdariffa contain vitamin c (ascorbic acid). The extracts of Hibiscus Sabdariffa are used for the treatment of various ailments such as high blood pressure, liver disease and fever. It shows antihypercholesterolaemic, antinociceptive and antipyretic in rats and rabbits but not anti-inflammatory activities. On smooth muscles (in vitro) the effect of calyx extract is variable, it mainly obstructs the tone of isolated muscles. In healthy person, the intake of Hibiscus Sabdariffa has led to remarkable drop of uric acid, citrate, tartrate, calcium, sodium, potassium, phosphate, and urinary concentration of creatinine but not oxalate. It has been seen that oil

extracted from plant's seeds have an inhibitory effect on some bacteria and fungi (in vitro). Compounds isolated from *Hibiscus Sabdariffa* are anthocyanins and Hibiscus protocatechuic acid. It may be used therapeutically active product.

Keywords---hibiscus sabdariffa, anti-oxidant, anti-hypertensive, diuretic, phenols, anthocyanins, therapeutic, citrate, potassium.

Introduction

Hibiscus Sabdariffa Linn (HS) (Syn: Roselle, Rozzele, Indian sorrel, sour tea karkade) belonging to family Malvaceae [1]. *Hibiscus Sabdariffa* is mainly found in Nigeria. It contains reddish purple acid tasty calyx of flower. Due to the combined effect of both 100% cocoa and 100% Hibiscus flower extract. It increases the free radical scavenging potentials and antioxidant properties [2]. *Hibiscus Sabdariffa* linn (Malvaceae) is an erect, bushy, herbaceous sub-shrub that grows up to 2.4m (8 feet) in height and it is typically consists of red calyx with five large sepals, it is known to be a tropical plant native to India and Malaysia, however it grows majorly in sub tropics of both hemispheres. The dried calyces of *Hibiscus Sabdariffa* has been used from ancient times for the treatment of obesity. According to some reports *Hibiscus Sabdariffa* is efficient for lowering the levels of total lipids, cholesterol, triglycerides [3]. In Mexico, it is known as "flor de Jamaica" or simply Jamaica. It has been used for its medicinal purposes as an antihypertensive, diaphoretic, diuretic and a colagogue. The antihypertensive effect and diuretic activity of *Hibiscus Sabdariffa* has seen together in hypertensive rats [4]. The presence of bright colours in fruits and vegetables is due to anthocyanins, it is mainly taken in western type diets which represents the most amply ingested flavonoids. *Hibiscus Sabdariffa* can be used as an ancient herbal medicine for the treatment of inflammatory disease by lacking of caloric value or potential alcohol toxicity [5]. Leaves of roselle have been used as origin of mucilage in medicine and cosmetics. Some disease of *hibiscus sabdariffa* that breakdown the leaves are root rot and stale rot by *Phytophthora parasitica*, root rot due to *Botrytis cinerea*, leaf fleck due to *Phoma sabdariffa*, blackleg, stalk base and root rot by *Macrophomina phaseolina*, root and seed rot by *Rhizoctonia solani*, seed and stem rot by *Sclerotium rolfsii*, leaf spot by *Cercospora hibisci* and powdery mildew by *Oidium able-moschii* [6].

Synonyms

The various name of *Hibiscus sabdariffa* are as follows, "Roses of anthea" 'African mallow', 'Roselle', "Rose mallow", Indian sorrel', "Flore de Jamaica" and Jamaica tea [7]. *Hibiscus sabdariffa* is known as "Roselle" in Australia, 'Tengamorán' in Asam, 'Gongura' in Hindi, 'Krajeab' in Thailand, "Bissap" in Senegal, Guinea Bissau, Mali, Burkina Faso, Ghana, Benin, Niger, Congo and France. 'Wonjo' in Gambia, 'Torosh' in Iran, 'Sorrel' in Carribean, 'Karkade' in Egypt, 'Asam Paya' in Malaysia, "Luoshen Hua" in Chinese, 'Lamanda' in Zambia and "Zobo" in Nigeria [8].

Origin

Hibiscus Sabdariffa had been adapted over time from western Sudan before 4000 BC, it was first recorded in Europe in AD 1576. It appears that it has been carried from Africa to the New World by slaves to use as a food plant [9]. *Hibiscus Sabdariffa* is also called Jamaican sorrel in 1707 in Jamaica, they use the calyces as food appears to have been first practised [10]. After taken to the new world, *Hibiscus Sabdariffa* was cultivated in various countries such as; Mexico, parts of Central America, West Indies, Southern Florida, Texas and California. It is now cultivated for culinary purposes in most of the tropical world. The use of *Hibiscus Sabdariffa* for fiber appear to have been developed in regions other than Africa [9]. Sudan is known to be the major producer of *Hibiscus Sabdariffa*; Even though farmers consider it as a famine food, when drought is about to come, farmers choose to cultivate *Hibiscus Sabdariffa* instead of other cereals because of its hardness under adverse conditions [11]. Total area required for the cultivation was estimated at approx. 9370-32590 ha (290,000 feddans) in 2000/2001 season approx. 20,160-25,160 ha (592882 feddans) in 1980s. Due to the increase in area it raised the production from 454 tons in 1960 to 26,000 tons in the 1999/2000 season [12].



Fig. (1) Map of Sudan showing area of *Hibiscus Sabdariffa* cultivation [13] (green colour)

Varieties of *Hibiscus sabdariffa*

Among various diversity of *Hibiscus*, *Hibiscus altissima* and *Hibiscus sabdariffa* are the very common and better introduced. *Hibiscus altissima* is branchless plant with yellow flowers, red or green colored calyces. Although this species is

not used for food purpose, this plant is more economically exigent than *Hibiscus sabdariffa* because of its high fiber content. The other distinct type *Hibiscus sabdariffa* or “Roselle” grows in a bush with various branches. The flowers of Roselle are axillaries or in terminal racemes, the petals are white, reddish with center at the base of the stamina column and this species is mostly used as food [14].

Composition of *Hibiscus sabdariffa*

Hibiscus Sabdariffa is mainly cultivated for its calyx, which is of three types: green, red and dark red. The red calyxes are the mostly characterized by their concentration anthocyanin. Delphinidin 3-Sambubioside and Cyanidin3-Sambubioside are the major component of anthocyanin. *Hibiscus Sabdariffa* is rich in organic acids, minerals, amino acids, carotene, vitamin C and total sugar in its calyx, leaves and seeds at various levels depending on the variety and geographical condition [15].

Table 1
Various Nutrients [16]

Nutrients	Calyces	Seeds	Leaves
Protein [g]	2	28.9	3.5
Carbohydrate [g]	10.2	25.5	8.7
Fat [g]	0.1	21.4	0.3
Vitamin [g]	-	-	1000
Thiamine [g]	0.05	0.1	0.2
Riboflavin [g]	0.07	0.15	0.4
Niacin [g]	0.06	1.5	1.4
Vitamin C [g]	17	9	2.3
Calcium [g]	150	350	240
Iron [g]	3	9	5

Taxonomical Classification

Kingdom: - Plantae
 Division: - Magnoliophyta
 Class: - Magnoliopsida
 Order: - Malvales
 Family: - Malvaceae
 Sub-family: - Malvoideae
 Genus: - *Hibiscus*
 Species: - *Hibiscus Sabdariffa* [17]

Morphology**Size**

Hibiscus Sabdriffa is an herbaceous sub-shrub which grow up to 8 feet (2.4 m) tall with smooth, cylindrical, typically red stems [18].

Flowers

Flowers grow singly in the leaf axils up to 12.5cm (5 inch). They are wide, yellow with rose or maroon eye, which turn pink as they diminish at end of the day [19].

Leaves

The leaves are alternate up to 7.5-12.5cm (3-5 inch). They are long, green with reddish veins or short petioles. The leaves of young seedlings, upper leaves of older plant are simple. Lower leaves are enormously 3.5 or up to 7 lobed, the margins are toothed [20].

Fruits

At certain time, the red calyx consists of 5 large sepals along a collar 8-12 slim, pointed bracts around base, begin to extend, fleshy, crisp, but juicy, 3.2-5.7cm (1 1/4-2 1/4) long and completely closes the velvety capsule.

Seeds

1.25-2 cm (1/2-3/4) long, it is green when immature, 5-valved, each valve consisting 3-4 kidneyshaped, light-brown seeds. They are 3-5mm (1/8-3/16) long and minutely downy. The capsule turns brown then it splits open when mature and dry.



Fig. 1. Roselle fruits [21]



Fig. 2. Roselle plant [22]

Application

Traditional culinary use

Fresh or dried leaves of *Hibiscus Sabdariffa* are used for preparation of herbal drink, hot and cold beverages, wine, jam, jellies, ice-cream, flavouring agents etc. The roasted are eaten in meals, whereas the leaves and shoots are taken as raw, cooked or as condiment. In Africa, the roasted seeds are grounded and it is used in meals, oily soups and sauces. Theseed is also used as substitute for coffee.

Source of fibre

Hibiscus Sabdariffa is more exigent species which grow as fibre plant. It became progressively exigent after the independent where partition with Pakistan takes place. Pakistan is known to be exigent jute growing area. *Hibiscus Sabdariffa* is used as replacement of jute in manufacturing of clothing, linen, fishing nets, ropes etc. The fibres of *Hibiscus Sabdariffa* is a part of ongoing research. It is used as a replacement for synthetic or mineral fibres in composite material.

Animal Feed

The leaves of *Hibiscus Sabdariffa* used as animal fodder and fibre. The seeds are used to feed poultry, sheep and remnant of the seed is used for seed oil extraction [23].

Cosmetic

In Malaysia the extracted oil from *Hibiscus Sabdariffa* was used for making scrubs and soaps. However, most of the seeds are disposed of by the product's manufactures [24].

Herbal medicine

Hibiscus Sabdariffa is used for various medicinal purpose. It is used to increase urination, cure crack in the feet bilious, sores [13]. Since ancient times in Sudan, *Hibiscus Sabdariffa* used for relief of sour throat and healing wounds [14]. In Africa, *Hibiscus Sabdariffa* is used as antipyretic, diuretic, anti-helmentic, sedative properties. In India, leaves are used as poultice on ulcer [25,26]

Hibiscus Tea

It is known to be the caffeine free herbal tea formed by using *Hibiscus Sabdariffa*. It is made by dried calyx of Roselle. It is found to be in red colour and it tastes like berries [24].

Medicinal and Industrial Application

Many medicinal and industrial application of *Hibiscus Sabdariffa* had been developed all over the world. Nowadays the extract of sepal has been used for treatment against leukaemia cause of high number of polyphenols, specially protocatechuic acid [27]. *Hibiscus Sabdariffa* earlier had not any commercial application but nowadays it is a source of a vegetable oil which low in cholesterol and rich in phytosterols and tocopherols, specially β -sitosterol and γ -tocopherol. The total characteristics of *Hibiscus Sabdariffa* seed oil allow more exigent industrial application, which represent added value for its cultivation [28].

Phytochemical Content

Hibiscus Sabdariffa is found to be rich in anthocyanins and protocatechuic acid. The dried calyces have flavonoids, gossypetine, hibiscetine and sabdaretine. The most found pigment is known as hibiscine and recognised as daphniphylline. Small quantity of delphinidin 3- monoglucoside (myrtillin), cyanidin 3- monoglucoside (chrysanthenin) and delphinidin. Seeds of *Hibiscus Sabdariffa* is known to be the good source of lipid-soluble antioxidants, specially γ -tocopherol [28].

Table 2
Chemical Analysis of dried *Hibiscus Sabdariffa* calyces [29]

Component	Red <i>Hibiscus Sabdariffa</i> (%)	White <i>Hibiscus Sabdariffa</i> (%)
Moisture	11.00	9.30
Crude protein	7.88	7.53
Crude fat	0.16	0.12
Crude fiber	13.20	12.00
Ash	10.60	9.50
Total carbohydrates	57.16	61.55
Ascorbic acid (mg/100 g)	11.00	15.50
Titration acidity (mg/100 g)	9.00	11.00
Total soluble solids (%)	5.00	5.50
Calcium (mg/100 g)	60.00	50.00

Iron (mg/100 g)	25.00	20.00
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Condition Required

Climate

Hibiscus Sabdariffa require three to four months of direct rainfall ranging from 130-250 mm for the growth. Dry weather is authorised, require for growth in the end months. Rain, high humidity at the time of harvesting and drying can degrade the standard of the calyces, decrease the yield.

Planting

Hibiscus Sabdariffa is delicate to commute in the day period. The photoperiodism require planting time to be set as stated by duration of the day not based on rainfall requirement. *Hibiscus Sabdariffa* is deep-rooted crop, so deep penetration for cultivation is required. It is planted at a rate of 6-8 kg/ha and about 2.5 cm deep. Hibiscus Sabdariffa planted at the starting of rainy season. The decreased planting rate produces more calyx. The major grown *Hibiscus Sabdariffa* varieties are found in China, Thailand, Mexico, Africa and Sudan.

The decreased planting rate produces more amount of calyx. Sowing is mainly done by modern grain drill or by hand. A good different tool would used to corn small enough to lodge the hibiscus seeds ^[30].

Harvesting and Storage

Hibiscus Sabdariffa seeds are harvested mainly in the later months of November. The harvest is decided while seeing the mature seeds. The fleshy calyces are harvested when the flower separate apart but before seed pod dried and opened. The risk of calyx to disease is more common when capsule attached with the plant after maturation of the seed ^[30]. 100-160 days after plantation, the calyces mature after three weeks by the start of the flowering ^[31]. The fruit mature continuously from the bottom to top. Harvesting is mainly done by hand labour, calyces were picked at suitable stage. Fruits are harvested when they are fully mature, it can be easily breakdown by hands; later clippers were required for harvesting. It is easier to breakdown the fruits in the morning time rather than the evening time period. Approx. each fruit yields about 7-10 g sepals ^[32]. Drying method has been used from ancient times for preserving foods. *Hibiscus Sabdariffa* drying is mainly done by two steps; harvesting the fresh fruit after then sun drying the calyces, or left the fruit to partially dry on plants after then sun drying the calyces, the crop should be protected during the entire process ^[33].

Pest Control and Weeds

Most found disease of Hibiscus Sabdariffa are stem rot and root rot. Prevention techniques comprise of analysing the water content of an irrigated field, planting should be done separately so that there would be no chance of getting infected. Insect damage is considered as minor, it doesn't exist; pests such as stem borer, flea beetles, abutilon moth, cotton bollworm and cutworm. Plant enemies generally don't take part in cultivated field. Due to weeding the size calyx and

increase in yield can be seen. *Hibiscus Sabdariffa* fields are normally weeded if required [30].

Table 3
Weeds seen during the growing season in the Sudan [13]

Scientific Name	Classification	Common Name
<i>Zornia glochidiata</i>	Dicot	Sheilini
<i>Cenhrus biflorus</i>	Monocot	Alhuskaneet
<i>Trienemara pentanture</i>	Dicot	Alraba
<i>Sesamum alatum</i>	Dicot	Simsim elgumal
<i>Ocimum basilicum</i>	Dicot	Elryhan
<i>Allium spp</i>	Bulb	Bureaj
<i>Echinochola colonum</i>	Monocot	Aldiffera
<i>Ruella patula</i>	Dicot	Tagtaga
<i>Corchorus olitorius</i>	Dicot	Almlukhia
<i>Tribulus terrestris</i>	Dicot	Aldraisa
<i>Ipomea cordofama</i>	Dicot	Eltabar
<i>Solanum dobium</i>	Dicot	Aljubain
<i>Abutilon figarinum</i>	Dicot	Alnaiada
<i>Ipomea sinensis</i>	Dicot	Ethantoot

Tayo Nathaniel Fagbemi et al. has seen that there is a direct relationship among phenolic content and antioxidant capacity of plant. Alkalized, natural cocoa, cocoa powder and dark chocolates are rich source of polyphenolic compounds and it show antioxidant activity in food systems. Thus, provide health benefit to human by improving blood flow, arterial elasticity, decreasing blood pressure and platelet aggregation, *Hibiscus* flower extract shows good free radical scavenging property [2].

Treatment of Radiation-Induced liver Damage in Rats

In the report of Oluwatosin ADARAMOYE et al. it has been seen that extract of veronica amygdalina, *Hibiscus Sabdriffa* and vitamin c may enhance the antioxidant activity and protects animals from radiation-induced liver damage. *Hibiscus Sabdriffa* is an herb whose extracts are used for the treatment of high blood pressure and fever [34].

Anti-hypertensive activity

M.R. Mustafa et al. had been seen that *Hibiscus Sabdariffa* used from ancient times for treating hypertension. The extracts of *Hibiscus Sabdriffa* apply strong antioxidant effects in vitro, which are done by presence of various active constituents such as flavonoids and vitamins. The studies found that the aortic rings pre-contracted with kcl with the help of concentration dependent methanolic extract of calyces of *Hibiscus Sabdriffa* and it shows quite more relaxant effect against $\alpha 1$ adrenergic receptor agonist [1].

Diuretic Activity

Enrique Jimenez-Ferrer et al. had found that *Hibiscus Sabdariffa* has been popularly used as an Antihypertensive, diaphoretic, diuretic, and a colagogue. Plant extracts are discovered of having capabilities of relaxing vascular smooth muscle by the help of calcium antagonism effect. The compounds present in *Hibiscus Sabdriffa* has numerous effects on the vascular endothelium which results into oxide nitric release while increasing renal vasorelaxation via increasing kidney filtration. Hence, the diuretic effect of *Hibiscus Sabdriffa* may be conciliate by nitric oxide release [4].

Antispasmodic activity

Hibiscus Sabdriffa contain various, organic acid, amino acid and calcium which is the most abundant ion present. Reports gathered from studies on isolated smooth muscle preparation had shown that extract contain substances alike might directly relax smooth muscle because the affect was not antagonized by receptor blocker. The direct relaxant effect might contribute in fall of blood pressure which is seen in cats. It seems that aqueous extract of *Hibiscus Sabdriffa* calyces consist substances with stimulatory and inhibitory properties depending on tissues studied [35].

Hypo-lipidemic Activity

According to reports of Lin Tzu-Li hyper-cholesterolemic patients, two capsule of hibiscus extract (1 gm) given 3g/day (three times a day), remarkably lowered serum cholesterol [36]. Another report of ethanolic extract from leaves of *Hibiscus Sabdariffa* remarkably show hypo-lipidemic effect [37]. *Hibiscus Sabdariffa* extract was also studied for with or without metabolic syndrome. Ethanolic extract of *Hibiscus Sabdariffa* with metabolic syndrome had remarkably reduced glucose, total cholesterol and low-density lipoprotein, where increasing high density lipoprotein [38,39].

Blood Pressure Lowering Effect

Herrera-Arellano A et al. and various scholars studied the efficacy of aqueous extract of *Hibiscus Sabdariffa* on hypertension. The aqueous extract of *Hibiscus Sabdariffa* used to cure mild, moderate hypertension also there is no adverse effect found, so it confirms its safety & efficacy [40,41]. As the mechanism of action of *Hibiscus Sabdariffa* has not inquire into properly. Daily intake of *Hibiscus Sabdariffa* extract consequently, decrease the systolic & diastolic blood pressure [42].

Anti-diabetic Activity

Penq CH et al. studied the extracted polyphenolic part of *Hibiscus Sabdariffa* for type-2 diabetic rat model [43]. Anti-insulin resistance properties, reduction in hyper glycaemia and hyper Insulinemia is seen in the extract of *Hibiscus Sabdariffa*. It was effectual in lowering serum cholesterol, triglycerides, ratio low density lipoprotein/ high density protein, formation and lipid per oxidation. The

intestinal α -glycosidase, pancreatic α -amylase are used to for digestion of complex carbohydrates found in food into bioavailable monosaccharide and has chief role in postprandial hyperglycaemia hydro citric acid lactone (Hibiscus acid) is used for inhibition of pancreatic α -amylase, intestinal α -glucosidase and pancreatic α -amylase activity [44,45].

Anti-helmentic and Anti-microbial effects

Gangrade H et al. has seen that *Hibiscus Sabdariffa* has anti-bacterial, anti-parasitic and anti-fungal actions. Extracted oil of *Hibiscus Sabdariffa* has been to have an in vitro inhibitory effect on bacillus anthracis and staphylococcus albus [46]. *Hibiscus Sabdariffa* extract of aqueous and ethanol is effectual against Schistosoma mansoni and micro- organism [47]. Afolabi et al. illustrate anti-bacterial effect of *Hibiscus Sabdariffa* on streptococcus mutans, a bacterium from oral cavity [48]. In another report, anti-bacterial potency of Hibiscus was also seen in campylobacter species [49].

Future Prospective and Current Approach

Prevention of Hepatorenal Insufficiency by Lead Exposure Using Hibiscus Sabdariffa

Nowadays, lead pollution is a major environmental challenge all over world. So, dietary interventions that are aimed for preventing lead's deleterious effects on body organs are required. Lead is known to be the multitarget toxicant, using oxidative stress to be the most likely mechanism of lead toxicity. Due to lead exposure it increases the risk of multiple disease such as brain and neurology defects, reduced attention and autism in children, birth defects, hypertension, bone turnover, hepatic and renal damages. Because of the anti-oxidant properties, the current study showed that *Hibiscus Sabdariffa* red calyx beverages, specially the cold ones, are protective against lead related disorders in rat model. The goal of study was to compare the protective effect of cold, hot beverages of *Hibiscus Sabdariffa* red calyx on liver and kidney inadequacy related to lead exposure in male rats [50].

Treatment of Murine Norovirus Using Various Plant Extract

Norovirus are known to be single-stranded, non-enveloped RNA which measures up to 27-35 nm in diameter. It influences on humans of all religion and ages leading most cases of viral gastroenteritis all over the world. Infection causes due to the ingestion of impure food or water which leads to diarrhoea and vomiting in individuals. Outbreaks are uncontrolled which spreads through nursing homes, military and various carious ships. The human Norovirus spread everywhere leading to cause about 75-90% nonbacterial gastroenteritis, vomiting and diarrhoea. Per year about 685 million cases were seen all over the world, about 21 million cases were found in U.S.A. About 800 deaths, 71,000 hospitalization and \$ 493 million economic loss observed due to norovirus per year in U.S.A. most outbreaks are seen in winters. Extracts of *Hibiscus Sabdariffa* contain antioxidant, anti-inflammatory, adhesive properties related with barricading function. *Hibiscus Sabdariffa* has the potential to reduce the viral multiplication process by inhibiting the replication process. The aim of the study is to show that Hibiscus

Sabdariffa extract the ability to damage murine norovirus accordant viral replication [51].

Phytochemical Screening and Antibacterial Activities of Green Hibiscus Sabdariffa Leaves

Hibiscus Sabdariffa are herbal plants which has huge prospective in the pharmaceutical field. Indonesian Sweetener and Fibre Crops Research Institute (ISFCRI) has found four high qualityherbal Hibiscus Sabdariffa such as Roselindo-1, Roselindo-2, Roselindo-3, Roselindo-4. Out of which Roselindo-3 distinct physical characteristics, named as green. Microwave Assisted Extraction was used for the extraction of green *Hibiscus Sabdariffa*, while taking ethyl acetate as a solvent. The report of phytochemical screening of green *Hibiscus Sabdariffa* contain flavonoids, tannins and terpenoids. Depending on the result of Liquid Chromatography Mass Spectroscopy analysis, green *Hibiscus Sabdariffa* extract has 323 compounds, such as 5- hydroxymethyl-2-furaldehyde, betaine, curcumin and nicotinamide. The aim of study was to discover the content of prospective chemical compounds in green *Hibiscus Sabdariffa* (Roselindo-3) to discover its prospective utilization. The purpose of the study was for phytochemical screening of the compound in green *Hibiscus Sabdariffa* extract and to discover the type of compound content by LC-MS/MS analysis [52].

Conclusion

Hibiscus Sabdariffa is world wide known medicinal plant which has been used for various purposes such as; it is used for the formation of red tea, syrup, jams-jellies and beverages. The extract of Hibiscus Sabdariffa contain secondary metabolites in the form of phytochemicals, vital minerals and vitamins. The biological active components of Hibiscus Sabdriffa have curative properties. The phytochemicals contain; tannins, saponins, glycosides, phenols and flavonoids withdrawn quantitatively and qualitatively. Seeds, leaves, fruits, flowers have been used as food and herbal medicine. Hibiscus Sabdariffa perform important role in treating various medical problems such as cardiovascular disorders, cancer, blood pressure lowering effect, diabetes, helmentic and microbial effects. Beverage formed by Hibiscus Sabdariffa are used as cooling herb, provide relief during hot weather by dilating the pores to cool the skin. But further research work required to understand its mechanism of action for the formulation of food products using Hibiscus Sabdariffa with locally grown food items.

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