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Review Article

MULTIPLE USES OF PSIDIUM GUAVA**Pal Priti*, Harihar Akshay ,Gawade Archana, Choudhari Monali,
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Article Received: September 2019 **Accepted:** October 2019 **Published:** November 2019**Abstract:**

Psidium guajava (guava), a tropical plant is used as a food .In rural area it can be used as medicine due its medicinal properties. Guava is easily cultivated in India, so it reflects its usage in rural communities for treatment of different conditions. According to information of clinical trials on guava obtained from Cochrane Central Register of Controlled Trials and Clinical Trial. gov. Various medicinal properties of guava have been reported from the survey. It is very effective in various conditions like-1)Skin infection 2)Respiratory infection 3)Malaria 4)Oral or Dental infection 5)pain 6) Immunostimulant 7)Woman problems 8) Kidney problem 9)Malnutrition 10)Hypertension and CVS 11)Liver problem 12)diabetes 13)Fever 14) Cancer.

Keywords: *Psidium guajava , Guava, India, Multiple Activity.***Corresponding author:****Pal Priti,**Department of pharmaceutical cognocny,K.S.S.COP,
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INTRODUCTION:

Psidium guajava is commonly named as Guava, yellow guava, lemon guava. Guava is of numerous trees and shrubs of the genus *Psidium* (family Myrtaceae) native to sub-tropical America. Guava is a small tropical tree that grows up to 35 feet with 133 genera and more than 3,800 species. It is cultivated from seed with very slow growth rate. Grafting is used to commercial groves. It is different in size from apricot up to grapefruit. Guava becomes invasive in some tropical locations. The term "guava" appears to derive from Arawak *guayabo* "guava tree", via the Spanish *guayaba* and it is adapted in many Asian or European languages with a similar condition. The common guava has various fruits with a yellow skin and white, yellow, or pink flesh and different types like apple guava, yellow-fruited cherry guava, strawberry guava, and red apple guava. The guava is mostly consumed raw and in form of jellies, jams, and juice. *Psidium guajava* are known for their tangy, sweet taste, nutrients, and medicinal uses. *Psidium guajava* has a rich ethno-medicinal history and their different parts of plant are used in various indigenous systems of medicine and treatment of gastrointestinal diseases.

Guava is higher in vitamin C than citrus (80 mg of vitamin C in 100 g of fruit) and also contains vitamin A. Guava is rich in flavonoids (anti-bacterial), quercetin (anti-diarrhea), triterpenes (antispasmodic), polyphenols (anti-oxidant), tannins, essential oils, carotenoids, lectins, vitamins, fiber, enzymes, proteins, minerals, and fatty acids. Guava's main plant chemical contains alanine, aspartic acid, butanal, asiatic acid, benzaldehyde, crataegolic acid, ethyl octanoate, histidine, hyperin, linoleic acid, lysine, mecocyanin, myricetin, palmitic acid, oleic acid, oxalic acid, etc. Guava is basically originated from Central America or Mexico. It is now very famous in Asian countries and is also increasingly available in American countries. The most guava productive countries are India, China, Pakistan, Thailand, Mexico, Indonesia, Brazil, Bangladesh, Philippines, and Nigeria. Universally the principal producers of commercial Guava cultivars had been India, Pakistan, and Brazil. India is a highest productive country of guava in world.

Using a guava in different disease:

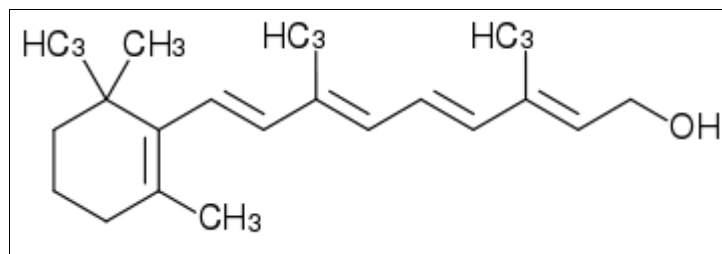
1. Skin infection
2. Respiratory infection
3. Oral and Dental infection
4. Pain
5. Immunostimulant
6. Women problem
7. Kidney problem
8. Malnutrition
9. Hypertension and CVS
10. Liver problem
11. Diabetes
12. Fever
13. Cancer
14. Skin wrinkles-

Chemical Constituents of Guava:

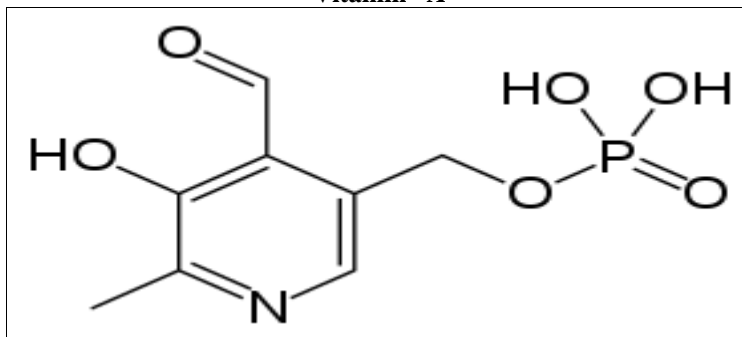
β -sitosterol (2), uvaol (3), oleanolic acid (4), and ursolic acid (5) have been isolated from the leaves of *Psidium guajava*. limonene (42.1%) and β -caryophyllene (21.3%). hexanal (65.9%), γ -butyrolactone (7.6%), (E)-2-hexenal (7.4%), (E,E)-2,4-hexadienal (2.2%), (Z)-3-hexenal (2.0%), (Z)-2-hexenal (1.0%), (Z)-3-hexenyl acetate (1.3%) and phenol (1.6%), while β -caryophyllene (24.1%), nerolidol (17.3%), 3-phenylpropyl acetate (5.3%) and caryophyllene oxide (5.1%) were the major volatile constituents present in the hydrodistilled oil. Many compounds were identified for the first time in the guava fruit such as γ -butyrolactone (7.6%) in the headspace SPME and nerolidol (17.6%) in the oil. In addition some compounds such as (Z)-3-hexenal, (E,E)-2,4-hexadienal, γ -butyrolactone, borneol, phenol, cuminyl alcohol could be identified only by the headspace method (SPME)[8,9]

Skin infection:

In skin infection it is found that guava and guava leaf extract use as antioxidant, antimicrobial, and anti-inflammatory agents. Guava leaf extract may even help treat acne, wrinkles and effective for killing acne-causing bacteria due to its antimicrobial, anti-inflammatory properties. The wide range of vitamin A, B & C can help slow down the aging process.



Vitamin -A

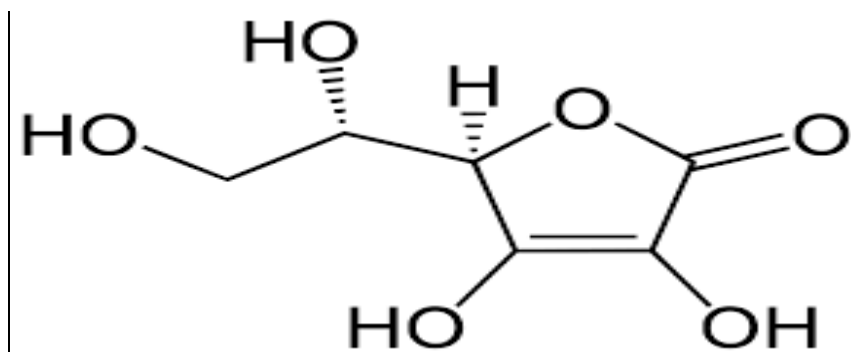


Vitamin B6

Respiratory infection:

In respiratory infection is found that guava and guava leaf extract act as anti-cough and antimicrobial agents. Guava leaf extract is very helpful in providing relief from cold, fever and juice of raw guava fruit helping

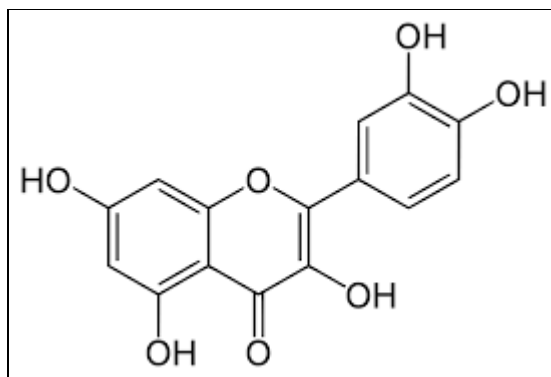
in by reducing mucus, disinfecting the respiratory tract, throat, lungs, and inhibiting microbial activity with its astringent properties. Guava is one of the richest sources of vitamin C and iron both are preventing from viral infection and cold.



Vitamin C

Oral and Dental infection: In oral and dental infection is found that guava and guava leaf extract use as anti-inflammatory, analgesic and antimicrobial agents. Guava leaves used to treat a painful tooth in boiling water and allow the solution to cool and rinse your mouth in it, or other way to chewing leaves of guava until the juice starts working on the affected areas of the oral and dental infection.

Pain: In pain is found that guava and guava leaf extract act as pain-reliever agent. Guava leaves contain quercetin compound to treat pain of joint (arthritis). So daily intake of guava leaf tea is very helpful in joints pain. Guava is also help to reduce the pain cause by cut on skin by applying guava leaf extract directly on skin.



Quercetin

Immunostimulant:

In immunostimulant is found that guava and guava leaf extract act as Immunostimulatory agent. The presence of active phenolic and antioxidant compounds in the leaves in both aqueous and ethanol extracts confers its immunostimulatory agent on guava leaves. Guava leaf extract and antioxidant compounds responsible for immunostimulatory activates.

Women problem:

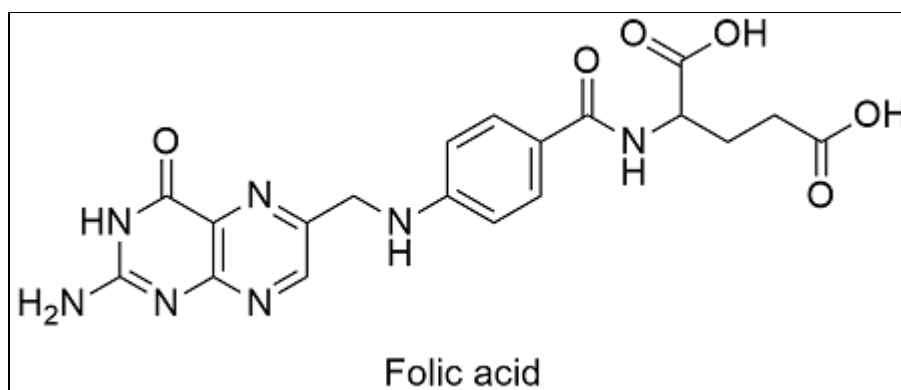
In women problem is found that guava and guava leaf extract act as anti-painkiller to reduce the pain of menstruation. Many women experience dysmenorrheal- painful symptoms of menstruation, such as stomach cramps. Guava leaf extract taking 6mg daily is resulted in reducing the pain intensity if menstruation cramps and more effective than some painkiller and also relieve form uterine cramps.

Kidney problem:

In kidney problem is found that guava and guava extract use to treat kidney damages. Guava content low potassium, minerals, vitamin and these are consume by kidney disease patients. Guava fruit maintain the blood pressure and reduce the risks of kidney damages.

Malnutrition:

In malnutrition ifs found that guava and guava leaf extract as a nutritional supplementary agent. Guava consist A & C, folic acid, dietary fiber, as well as dietary minerals such as iron, manganese, potassium, and copper. Guava is a single fruit contain about four times the amount of vitamin C as an orange and guava fruit is also known as "poor man's apple of tropics." The guava used to increasing levels of hemoglobin in children and anemia in antenatal women showed that is improved maternal hemoglobin.

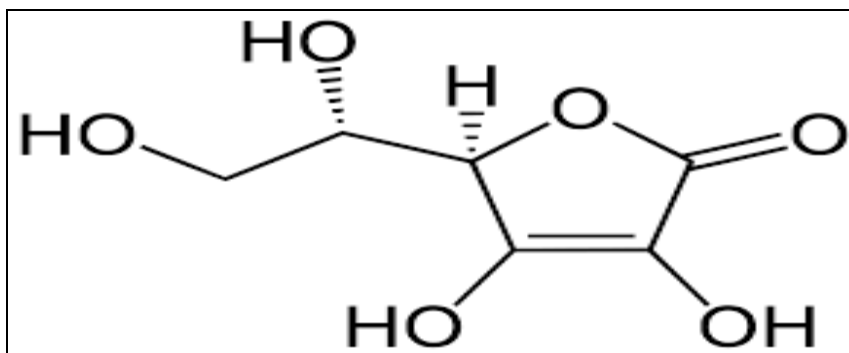


Folic acid

Hypertension and CVS:

Guava levees contain high level of antioxidants and vitamins it help to protect heart damage by free radicals. Its leaf extract lowers blood pressure , decreases bad LDL cholesterol which is linked to higher risks of heart diseases and strok .It rises good HDL cholesterol. Higher level of potassium and

soluble fibers in Guava improves heart health. By eating ripe guava before meals decrease in blood pressure 9.9%.Guava fruit or leaf extract may have a positive effect on heart health by lowering blood pressure, decreasing bad cholesterol, and increasing good cholesterol.



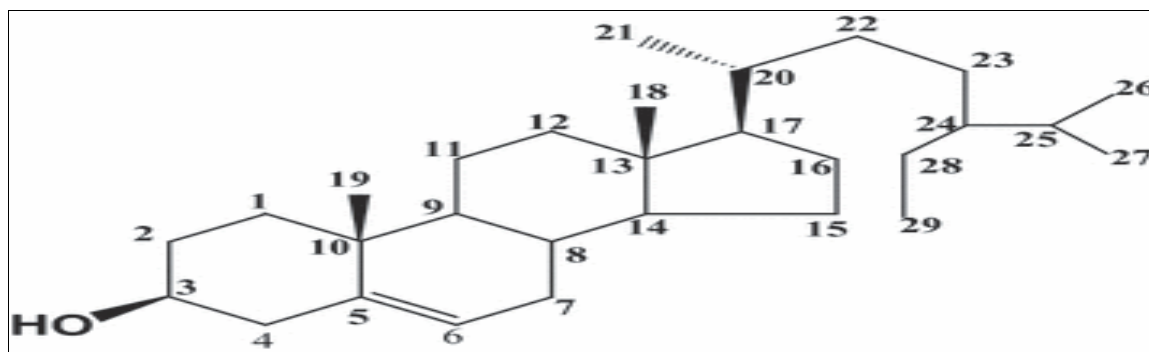
Vitamin C[7]

Liver problem:

In liver problem is found that is guava and guava leaf extract act as antioxidant and anti-inflammatory agent. In liver problem cholestasis liver injury is a main leading cause of chronic liver diseases which is involved with oxidative stress change and inflammation. Guava mainly rich in antioxidant and anti-inflammatory compound which is play a vital role in preventing against the cholestatic liver damages.

Diabetes:

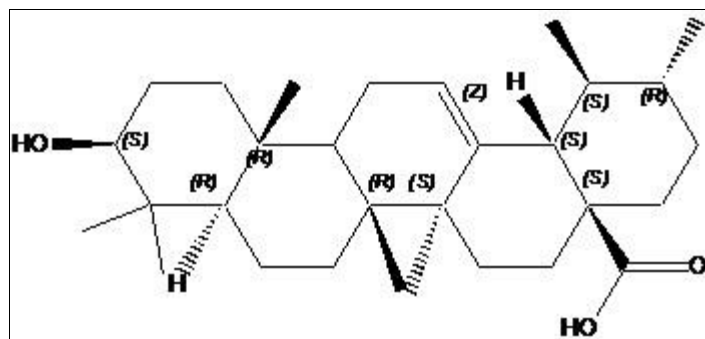
In diabetes is found that guava and guava leaf extract act as anti-diabetic agent. The high fiber content in guava can help to manage diabetes by adsorption of sugar level in the blood. Guava leaf extract prevent of type 2 diabetes. Guava leaf contains β -sitosterol it gives an antidiabetic action. Guava leaf extract prevent the fluctuation in insulin, reduce glycemic index and glucose levels. by drinking guava leaf tea after meal reduces blood sugar level 10%

 β -sitosterol [1]**Fever:**

In fever (dengue fever) is found that guava and guava leaf extract use to treating the dengue fever by increasing the consumption of water and healthy eating. There is a guava fruit commonly used as dengue fever treatment, guava (*Psidium guajava*) about taking 100 gm of guava contains 337 mg of vitamin C.

Cancer:

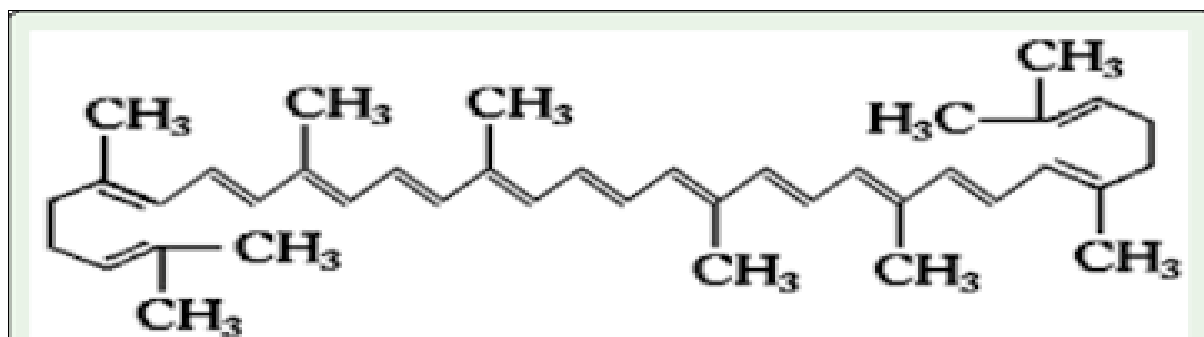
In cancer is found that guava and guava leaf extract act as anti-cancer agent. Guava extract can prevent and even stop the growth of cancer cells, this likely due to the high levels of powerful antioxidant that prevent free radicals form damaging cells, one of the main causes of cancer. Guava leaf oil is four time effective at stopping cancer cells growth than certain cancer drugs.



Ursolic Acid [6]

Skin wrinkles- guava contains Antioxidants which protects skin from damage, which slow down its aging process, helping prevents wrinkles. Guava extract

maintains healthy skin and also helps to treat acne by applying directly to skin. It killing acne causing bacteria with antimicrobial and anti-inflammatory activity.



lycopene

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