

Benefits of Lychee Fruit for Skin, Hair and Health

P. Swathi¹, M. Jyothi², P. Venkatesh³, D. Hepcy Kalarini⁴, R. Prema⁵

¹Student, Department of Pharmacognosy, Jagan's Institutions of Pharmaceutical sciences Nellore, India ²Professor, Department of Pharmacognosy, Jagan's Institutions of Pharmaceutical sciences Nellore, India ^{3,4}Professor, Department of Chemistry, Jagan's Institutions of Pharmaceutical sciences Nellore, India ⁵Professor, Department of Pharmaceutics, Jagan's Institutions of Pharmaceutical sciences Nellore, India

Abstract: Litchi is a tasty fruit that is commercially grown for food consumption and nutritional benefits in various parts of the world Due to its biological activities, the fruit is becoming increasingly known and deserves attention not only for its edible part, the pulp, but also for its peel and seed that contain beneficial substances with antioxidant, cancer preventive, antimicrobial, and anti-inflammatory functions Due to its biological activities, the fruit is becoming increasingly known and deserves attention not only for its edible part, the pulp, but also for its peel and seed that contain beneficial substances with antioxidant, cancer preventive, antimicrobial, and anti-inflammatory functions This review specifically describes, in a comprehensive analysis, the antitumor properties of the different parts of Litchi and highlights the main biochemical mechanisms involved.

Keywords: Litchi Chinese fruit extracts; neutraceutical properties; anti-tumor activity

1. Introduction



Geographical source:

Scientific Name - Litchi chinensis

Family - Sapindaceae

Native - Kwangtung and Fukien provinces in the Southern China

Other Names - Lichi (Hindi), Vilazi pazham (Tamil), Lichi Pazham (Malayalam)

Lychee is grown in tropical and Litchi subtropical regions and is popular all over the world. This flavorful and juicy fruit grows in clusters on a slow-growing medium-sized evergreen tree that bears this fruit for a limited time only. This tree also bears pretty spring flowers that are really short-lived. It has a round or oval shape with a pinkish-brown rind, translucent to white flesh, and an inedible seed. It may have a short shelf life, but this juicy summer treat has more than just taste to offer. Is lychee healthy? Yes, it is highly rich in nutrients and offers numerous benefits for your skin, hair, and health that make it all the more irresistible.

Lychee Nutrition Facts:

- Litchis have a high nutritional value. They are very rich in vitamin C, containing about 71.5 mg per 100 grams. They are also rich in copper and phosphorus.
- What makes litchis unique is that they contain the polyphenol oligonol that has antioxidant and antiviral properties.

For a more detailed overview of the nutritional value of litchis, refer to the chart below.

Table 1		
Overview of the nutritional value of litchis		
Principle	Nutrition value	Percentage of RDA
Energy	66 kcal	3.3 %
Carbohydrates	16.53g	12.7%
Protein	0.83 g	1.5%
Total fat	0.44 g	2%
Cholesterol	0 mg	0%
Dietary fibre	1.3 g	3.5 %
MINERALs		
Calcium	5 mg	0.5%
Copper	0.148 mg	16%
Iron	0.31 mg	4%
Magnesium	10 mg	2.5%
Manganese	0.055 mg	2.5%
Phosphorus	31 mg	4.5 %
Selenium	0.6 mg	1 %
Zinc	0.07 mg	0.5%
VITAMINS		
Folates	14 mg	3.5%
Niacin	0.603 mg	3.5%
Choline	7.1 mg	1 %
Pyridoxine	0.100 mg	9%
Riboflavin	0.065 mg	5 %
Thiamine	0.011 mg	1%
Vitamin A	0 mg	0%

Table 1

2. Benefits of Litchis

A. Skin Benefits

- 1. Prevent Signs of Aging
- 2. Help Remove Blemishes



- 3. Reduce Sunburns
- B. Hair Benefits
 - 1. Promote Hair Growth
 - 2. Provide A Distinct Shine to Your Mane
- C. Health Benefits
 - 1. Have Anticancer Effect
 - 2. Promote Cardiovascular Health
 - 3. Improve Digestion
 - 4. Prevent Cataract
 - 5. Against Influenza
 - 6. Aid Weight Loss
 - 7. Regulate Blood Circulation
 - 8. Prevent Blood Vessel Rupture
 - 9. Anti-Inflammatory Agents
 - 10. Provide Instant Energy
 - 11. Protect from Herpes Virus
 - 12. Strengthen Immunity
 - 13. Regulate Blood Pressure
 - 14. Provide Stronger Bones
 - 15. Prevent Anemia
 - 16. Increase Libido

1) Skin benefits of litchi



Litchis are simply amazing for our skin. Whether you are suffering from ugly wrinkles or dry skin, these exotic fruits have a solution for everything.

1. Prevent Signs of Aging

As you grow older, your skin starts to show the first signs of aging. Litchis, when used topically, can help delay their appearance.

What You Need:

- 4-5 litchis, deseeded and peeled
- ¹/₄ ripe banana
- What You Have To Do:
- Extract the juice from the litchi pulp. To do this, you need to mash the pulp and pass it through a strainer.
- Puncture the vitamin E capsule and add it to the juice.
- Keep the mask on for 15 minutes and rinse with cold watercl

Why This Works:

As you age, your body produces more and more free radicals.

These free radicals damage your skin and cause wrinkles. Litchis are rich in antioxidants that combine with the free radicals and prevent them from damaging your skin

- 2. Help Remove Blemishes:
 - Blemishes are the bane of anyone who seeks flawless skin. Applying litchi juice can help fade away the blemishes and marks, leaving you with clear skin.

What You Need:

- 4-5 litchis, peel and seed removed
- 2-3 cotton balls

What You Have to Do:

- 1. Mash the litchis to make a paste.
- 2. Soak the cotton balls in the paste, and apply to your face or just the affected areas.
- 3. Apply to the affected areas and rinse with cold water after 30 minutes.

Why This Works:

Blemishes are basically spots bearing the signs of hyperpigmentation. Litchis are excellent sources of vitamin C. This makes them a potent cure for blemishes

- 3. Reduce Sunburns:
 - Spending too much time in the sun can cause redness and blisters. Sunburns can cause pain and irritation, and applying litchi infused with vitamin E can help soothe your inflamed skin.

What You Need:

3-4 litchis, peel and seed removed

1 vitamin E capsule

What You Have to Do:

- Extract the juice from the litchi pulp. To do this, you need to mash the pulp and pass it through a strainer.
- Puncture the vitamin E capsule and add it to the juice.
- Apply to the affected areas and rinse with cold water after 30 minutes.

Why This Works:

- Litchi is effective for treating sunburns because of its vitamin C content. A combination of vitamins C and E has been proven to treat the effects of the sun on the skin.
- 2) Litchi Benefits for Hair
 - Apart from being a blessing for your skin, litchis also add shine and bounce to your hair.



4. Promote Hair Growth:

• Be it stress or pollution, a host of factors can wreak havoc on our hair. Litchis, when used topically, can help promote hair growth

What You Need:

- *7-8 litchis, juice extracted
- *2 tablespoons aloe vera gel

What You Have to Do:

- 1. Mix the litchi juice and aloe vera in a bowl.
- 2. Massage the mixture into your scalp.
- 3. Keep it on for 60 minutes, and then wash it off with a mild shampoo.

Why This Works:

. Your hair grows when the hair follicles are properly nourished. Copper peptides enlarge the hair follicles, which drastically reduces the resting phase of hair growth. Since litchi is an excellent source of copper, it helps stimulate the hair follicles and makes your hair grow.

5. Provide A Distinct Shine to Your Mane:

• As your hair losing its natural shine owing to the harsh weather conditions? Start using litchi pulp as a conditioner for your hair.

What You Need:

The pulp of 8-10 litchis

What You Have to Do:

- 1. Mash 10 litchis to make a pulp and apply this pulp to your hair.
- 2. Wash thoroughly after 15 minutes to achieve shiny and beautiful hair.

Why This Works:

• Litchi is rich in vitamin C that enables it to refurbish the shine in our hair. It is also full of copper and iron that are responsible for maintaining the original hair color.

3) Health Benefits of Litchis:

The exotic and the gorgeous litchi is full of health benefits ranging from aiding weight loss to preventing cancer. Let's take a look.

6. Have Anticancer Effect:

• One of the most important benefits of litchi is that it has anticancer effects. Having it on a daily basis in any form, including litchi juice, can actually help prevent the occurrence of this fatal disease.

Why This Works:

Research using litchi extracts have shown that they contain powerful antioxidants and flavonoids and have anticancer effects, which are especially effective against breast cancer cells.

7. Promote Cardiovascular Health:

• Researches state that the antioxidants present in litchis can help promote cardiovascular health

Why This Works:

- Litchis contain a compound named oligonol that promotes the production of nitric oxide. Nitric oxide or NO is a vasodilator, which means it helps expand the blood vessels to allow blood to flow through properly.
- This reduces the pressure on your heart to pump blood, reduces the wear and tear your heart goes through, and improves the overall cardiovascular health.

8.Improve Digestion:

• If you frequently suffer from constipation or other disorders related to the GI tract, try consuming litchis to ease your digestion.

Why This Work

- As a fruit native to the region, litchis were consumed by the Chinese to help with digestion and relieve stomach ailments .
- Litchis have a lot of water content, which has a soothing effect on the stomach. They also have a considerable amount of fiber, which helps in digestion.
- 9. Prevent Cataract:
 - Cataract is a visual impairment that is caused due to the clouding of the lens in the eyes. Since cataract affects millions, there have been numerous studies conducted regarding it. One study concluded that litchis might help inhibit cataract.

Why This Works:

- Litchis contain phytochemicals that exhibit antioxidant and antineoplastic properties. This means that they help prevent abnormal growth of cells, which helps prevent cataract.
- 10. Act Against Influenza:
 - Influenza is caused by viruses and is an extremely communicable disease. Due to certain strains of these viruses showing resistance to traditional antiviral drugs, there is a need to develop new medications. Litchi fruit extracts have shown to be effective against these viruses.

Why This Works:

Litchis exhibit antiviral properties due to the presence of oligonol that stops the virus from multiplying

11. Aid Weight Loss

• Being a low-calorie fruit, litchi is ideal for those who are looking to lose weight.

Why This Works:

• Litchis don't have too many calories, with 100 grams containing only 66 calories. They also contain a lot of water, a significant amount of fiber, and have negligible fat content. This makes them ideal for those looking to lose weight.

12. Regulate Blood Circulation

Litchis have been found to help in proper blood circulation throughout our body, thus ensuring smooth functioning of



organs and organ systems.

Why This Works:

- The presence of a variety of nutrients, including magnesium, iron, copper, manganese, folate, and vitamin C, plays an important role in making litchis a blessing for our circulatory system.
- 13. Prevent Blood Vessel Rupture
 - Consuming litchis or litchi juice can help in controlling abnormal bruising owing to blood vessel rupture.

Why This Works:

• Litchi is rich in abundant polyphenols like the bioflavonoid called rutin. This makes it a necessity when it comes to the strengthening of the blood vessels (14). This property also makes it useful in treating conditions like varicose veins and hemorrhoids.

14. Anti-Inflammatory Agents

• Including delicious litchis in your diet can help treat inflammation and tissue damage that can happen due to various factors, including vigorous exercise.

Why This Works:

It has been found out that flavanol-rich litchi fruit extracts (FRLFE) possess anti-inflammatory properties.

15. Provide Instant Energy

• Consuming litchis regularly can make your bones stronger.

Why This Works:

Litchi is rich in vitamin C, which serves a number of important functions in the body including being an important co-factor in all enzymatic reactions. It plays an essential role in the production of collagen and carnitine that are required to break down fat, providing us with instant energy

16. Protect from Herpes Virus

Litchis can also protect us from the deadly herpes virus.

Why This Works:

This wonderful fruit has proanthocyanidins that carry very powerful antiviral properties. These properties make it effective against rare and troublesome viruses like herpes or coxsackie

17. Strengthen Immunity

Does a slight weather change make you prone to cold and cough? It's quite possible that you have a weak immunity. Have litchis to strengthen your immunity.

Why This Works:

The presence of vitamin C in litchi makes it very effective in strengthening our immunity. This water-soluble vitamin is full of antioxidants that protect our body from foreign germ invasion. Hence, it is a highly recommended fruit for young kids.

18. Regulate Blood Pressure

We generally avoid pulpy fruit to maintain blood pressure. However, litchi is amazing if you want to get your blood pressure under control

Why This Works:

Litchis carry balanced potassium and sodium levels, which is absolutely necessary for maintaining proper blood pressure. Also, the vasodilatory properties of potassium enable it to soothe and relax the blood vessels in the body, leading to the controlled hypertension

19. Provide Stronger Bones

Consuming litchis regularly can make your bones stronger. Why This Works:

Litchis are full of essential compounds required for healthy bones, such as magnesium, phosphorus, manganese, copper, iron and many others. These minerals actually increase the calcium absorption in the bones, thus making them healthy.

20. Prevent Anemia

Litchis play an important part when it comes to the prevention of anemia.

Why This Works:

This fruit contains an essential amount of copper, which increases the RBC count in the blood. We all know that anemia occurs due to decrease in the hemoglobin levels. This can be avoided by consuming litchis

21. Increase Libido

Many studies have concluded that litchi can enhance sexual desires in humans

Why This Works:

Litchi is known to stimulate the libido because of the abundance of important components like potassium, copper, and vitamin C

Litchi Fruit Side Effects:

- Litchis have high sugar content, which is why people suffering from diabetes should have them in moderation.
- They might cause allergic reactions in some people. So, if you have had some history with it, you should totally avoid consuming litchis.
- Litchi is also known to disturb the hormonal balance in the body. So, consume it in moderation as it can cause internal bleeding, fever or many other troubles.
- Litchi is also known to disturb the hormonal balance in the body. So, consume it in moderation as it can cause internal bleeding, fever or many other troubles.
- Pregnant ladies should avoid having litchis until they are in the breastfeeding stage as they can cause hemorrhage and infections and harm your baby.

How to Store Lychee:

- Litchis are mostly grown in tropical and subtropical regions. They are seasonal fruits, and are usually available from June through October. They are highly perishable, and once plucked from the tree, do not ripen any further.
- A pinkish-brown shell indicates that the fruit is fresh. Select litchis that are firm, feel heavy, and have a dry shell. Avoid the ones that feel soft, or

have cracked shell or black spots.

• Litchis don't have a long shelf life. When stored in the refrigerator in a plastic bag, they can last about 10 days. Refrigeration usually turns the shell of the litchi darker without affecting the fruit.

Recipes Using Litchis:

• These flavorful fruits can be used to whip up many scrumptious concoctions. Take a look:

1. Litchi Lemonade

Make a refreshing summer drink by adding litchi to the classic lemonade.

What You Need:

- 12 litchis, peeled and pitted
- 3 cups water
- 2 tablespoons lemon juice
- 3 tablespoons sugar

What You Have to Do:

- 1. Blend the litchis till a puree is formed.
- 2. Add the rest of the ingredients and blend or use a shaker to combine.
- 3. Serve in a tall glass with ice cubes.

2. Litchi Pudding:

Who doesn't love pudding? Here's a quick recipe to make yummy litchi pudding.

What You Need:

- 50 g pomegranate
- $1\frac{1}{2}$ cups chopped litchis
- 200 ml fresh cream
- 1 tbsp
- gelatin
- 3 tbsp
- custard powder
- 3 cups milk * 1 tin
- Milkmaid sweetened condensed milk

What You Have to Do:

- 1. Mix the custard powder in a little milk. Now, add this thick paste to rest of the milk and let it boil. Make sure the consistency is thick.
- 2. Soak gelatin in a dash of water and add this to the custard. Mix well. Now, add milkmaid and stir properly. Let the mix cool for some time.
- 3. Take another bowl and whisk the cream in it and pour it in the custard. Add pomegranate and litchi and refrigerate it for two to three hours.

Lychee iced tea:



Here's a recipe for litchi iced tea to quench your thirst. What You Need:

- *2 cups water
- *1 tsp black tea
- 5 tbsp powdered sugar
- 8 tbsp litchi crush/ litchi puree
- Ice cubes

What You Have to Do:

- 1. Boil water in a pan.
- 2. Add tea leaves and cover it for 20 minutes. You can add more tea if you like your tea strong.
- 3. Let the mix cool for half an hour and then strain it. Add litchi crush and sugar to it. You can increase or decrease the quantities of sugar and crush according to your taste.
- 4. Take a glass and fill it with ice cubes. Now, pour the litchi tea over it and serve chilled.

4) Other Uses:

Usually, litchis are eaten with their shell and seed removed. Their sweet taste makes them a great addition to smoothies, salads, and desserts

- 1. Peeled and chopped litchis can be served on a cheese platter.
- 2. Litchis can be added to ice cream, custard, and yogurt and served as dessert.
- 3. They can be dried with the rind intact so that the pulp shrinks. Dried litchis are also known as litchi nuts.

3. Conclusions

- The different portions of Litchi fruit contain key bioactive compounds that account for the anticancer effects described in the present review. Purifying these agents may represent an important step in phyto-pharmacotherapy, which can have a high impact in oncology.
- However, the biological activity of Litchi components has been mainly studied as evaluation of cytotoxicity in in vitro models.
- Therefore, the knowledge of the biochemical mechanisms underlying the anti-proliferative/death effects of Litchi components in tumor cells represents an important basis for anticancer translational.

References

- [1] 1) Menzel C. Lychee, Its Origin, Distribution and Production around the World 1995. Available online: http://rfcarchives.org.au/index.htm.
- [2] 2) Menzel C. The Lychee Crop in Asia and the Pacific. FAO Regional Office for Asia and the Pacific; Bangkok, Thailand: 2002.
- [3] Menzel C.M., Waite G.K. Litchi and Longan: Botany, Production and Uses. CABI Pub.; Wallingford, UK: Cambridge, MA, USA: 2005.
- [4] Kilari E., Putta S. Biological and phytopharmacological descriptions of Litchi chinensis. Pharmacogn. Rev. 2016;10:60.
- [5] Nielsen G. The use of isozymes as probes to identify and label plant varieties and cultivars. Isozymes. 1985;12:1–32.



- [6] Padoan D., Farina V., Ferlito B., Barone F., Palazzolo E. Qualitative features of Litchi fruits (Litchi Chinensis Sonn.) cultivated in North east Sicily. Acta Italus Hortus. 2012;11:142–144.
- [7] Arts I.C.W., Hollman P.C.H. Polyphenols and disease risk in epidemiologic studies. Am. J. Clin. Nutr. 2005;81:317S–325S.
- [8] Septembre-Malaterre Douraguia E., Gonthier M.-P. Evaluation of nutritional and antioxidant properties of the tropical fruits banana, Litchi, mango, papaya, passion fruit and pineapple cultivated in Réunion French Island. Food Chem. 2016;212:225–233.
- [9] Xu X., Xie H., Hao J., Jiang Y., Wei X. Flavonoid glycosides from the seeds of Litchi chinensis. J. Agric. Food Chem. 2011;59:1205–1209.
- [10] Li W., Liang H., Zhang M.W., Zhang R.F., Deng Y.Y., Wei Z.C., Zhang Y., Tang X.-J. Phenolic profiles and antioxidant activity of Litchi (Litchi

Chinensis Sonn.) fruit pericarp from different commercially available cultivars. Molecules. 2012;17:14954–14967.

- [11] Manda G., Isvoranu G., Comanescu M.V., Manea A., Debelec Butuner B., Korkmaz K.S. The redox biology network in cancer pathophysiology and therapeutics. Redox Biol. 2015;5:347–357.
- [12] Marengo B., Nitti M., Furfaro A.L., Colla R., Ciucis C.D., Marinari U.M., Pronzato M.A., Traverso N., Domenicotti C. Redox homeostasis and cellular antioxidant systems: Crucial players in cancer growth and therapy. Oxid. Med. Cell. Longev. 2016;2016:6235641.
- [13] Ibrahim S.R.M., Mohamed G.A. Litchi chinensis: Medicinal uses, phytochemistry, and pharmacology. J. Ethnopharmacol. 2015;174:492– 513.