

Benefits of Jackfruit and its Natural Properties to Treat Diabetes or Colon Cancer and Weight Loss Related Issues

Prashant Singh Parihar, Shibani Brahma, Aditi Shirole

Symbiosis Skills and Professional University (Kiwale), Pune

Abstract: Jackfruit is an exotic fruit grown in the tropical climate regions like most Asian countries. It is specifically grown the most in the Western Ghats of South India. Jackfruit is popularly known as vegan meat in the West as they have discovered several benefits of the fruit and is being sold in slices in the US whereas Asians have been consuming it with or without the bulbs for decades. However everyone agrees to the fact that it is very healthy and should be a part of our regular diet. Presently, India is known as the capital of Diabetics as the number of diabetics is increasing day by day. Hence, being a fibrous fruit with low glycemic index (60-65), jackfruit is beneficial for diabetics as fiber slows down the release of sugar into the blood. Now it has been clinically proven that Jackfruit reduces blood sugar levels and helps in reversing diabetes which thereby confirms that it is a good natural source to maintain glucose levels instead of opting for any expensive medications or being insulin dependent externally. A study regarding the same was approved by ICMR (Indian Council of Medical Research) and published with positive conclusions. Hence it can effectively be used as an insulin replacement. It is equally beneficial for losing or maintaining weight as the fiber it contains is insoluble fiber with some essential vitamins and minerals. Moreover, the Phytonutrients namely lignans, saponins, isoflavones and antioxidants present in the jackfruit have anticancer, antiulcer, antihypertensive, antiaging and immunity boosting properties adding to its benefits. Adding to that, with the help of recent studies it has shown effective results in the treatment of colon cancer as the insoluble fiber present in jackfruit functions as bottle brush to rinse and purify the intestines to prohibit colon cancer.

Lately not only has it been consumed in the flour form, from the green jackfruit but also as a meat substitute or vegan meat due to its firmness and chewy texture.

Keywords: Jackfruit flour, vegan meat, meat substitute, diabetes, colon cancer, phytonutrients, weight loss, fiber.

Introduction: Jackfruit is the largest tree fruit and is one of the exotic tropical fruits, specifically grown on a larger scale in South India.

Jackfruit has several beneficial properties such as anti-inflammatory, antihypertensive, anticancer, antiulcer and antiaging.

It also plays a major role as an immunity booster.

The latest trend of meat substitute has found its way as jackfruit is now popular as vegan meat due to its firmness and moreover, the green jackfruit flour is widely being used as a substitute for wheat flour or rice flour regarding its carbohydrate content and low calories.

Jackfruit is enriched with a number of nutrients like proteins, insoluble fiber, essential vitamins and minerals, antioxidants which increase the immunity promoting optimum health.

The nutritional values for 100g of raw jackfruit bulbs are as follows:

Carbohydrates – 23g

Fiber – 1.5g

Proteins – 1.7g

Calcium – 24mg

Potassium – 448mg

Calories- 95

Jackfruit as a boon for Diabetics:

Diabetes Mellitus is condition wherein the body (i.e pancreas) does not produce enough insulin for the consumed carbohydrates or the insulin is not able to act on the carbohydrate content Jackfruit is a very fibrous fruit and hence extremely beneficial for diabetics as the fiber slows down the rate time at which the glucose is released into the blood. It is now clinically proven that the consumption of jackfruit reduces the blood glucose levels and helps in reversing diabetes. According to a published study, it helps bring down HbA1c (glycosylated hemoglobin), FBG (fasting blood glucose) and PPG (postprandial glucose). The conclusion of this study is obtained by a randomized, double blind design where 20 out of 40 Type 2 diabetes participants were given 30g of green jackfruit flour for 3 months while the rest participants were given standard wheat or rice flour to make rotis or idlis. At the end of this study approved by the ICMR (Indian Council of Medical Research), it was observed that the ones who used jackfruit flour showed positive changes in their plasma glucose levels. This fiber-rich fruit is a potent substitute for carbohydrates, its Glycemic load (glucose level) of an unripe or green jackfruit is nearly half to that of wheat or rice.

Jackfruit is also enriched with vitamin A, vitamin C, calcium, potassium, iron, magnesium, etc. which can be helpful for weight loss or diabetic diet.

Treatment of Colon Cancer by employing benefits of Jackfruit:

Colon cancer also known as colorectal cancer (combination of colon and rectal cancer) is developed in the colon or rectum of the large intestine. This can be indicated by numerous symptoms like blood in the stool, change in bowel movements including diarrhoea or constipation, fatigue, weight loss, persistent abdominal discomfort. Generally colon cancer is most often seen in older adults, though it can happen at any age.

Jackfruit might be the key to treat colon cancer and improve digestive health. The copious phytonutrients likely *lignans*, *isoflavones*, and *saponins* in jackfruit contribute to its anticancer, antihypersensitivity, antiulcer and anti aging properties.

Recent studies show that jackfruit acquires compounds with chemoprotective properties that minimize the mutagenicity of *Aflatoxin B1 (AFB1)* and proliferation of cancer cells. Moreover, flesh of jackfruit contains phytonutrients and antioxidants that may be an effective aid to treat or improve cancer.

Jackfruit comprises an abundance of insoluble fiber. When jackfruit is consumed in the form of carbohydrate, the insoluble fibre acquired per day is more elevated than rice or tortillas. This upgrades and enhances the bowel movement. The insoluble fibre present in jackfruit functions as bottle brush to rinse and purify the intestines to prohibit colon cancer.

Dietary fibre acquired by jackfruit makes it an acceptable bulk laxative. This slows down the exposure time and cohere with cancer causing chemicals, in addition the minerals and vitamins play an important role by protecting colon mucous membrane. Hence, fiber rich jackfruit also helps in maintaining smooth bowel activity in the digestive tract.

Losing Weight By Eating Jackfruit:

Nowadays, obesity affects one out of three people around the world. By consumption of more energy, people gain weight rather than burning. Nevertheless, by consuming fewer calories and including healthy habits in lifestyle can help.

However, other constituents play a vital role such as genetic factors, metabolism, hormones, the type of food you eat, your body type and lifestyle.

Current studies have been proposed to explain that jackfruit can accelerate weight loss if consumed in the right way. As jackfruit is rich in dietary fibre, which helps in improving digestion and metabolism - the roots of weight loss.

Jackfruit is not very high in calories, one cup of sliced raw jackfruit of 100 grams contains about 157 kilocalories. This contains a loaded amount of protein, vitamins and dietary fibre that aids prominent weight loss. Due to its low fat content and absence of saturated fat and trans fat, it is considered heart healthy food. Jackfruit is a better alternative for vegetarian individuals.

A 100 grams of jackfruit has half of calories when compared with two tortillas and a cup of rice which provides satiety because of its high fibre and water content. So you end up by inhibiting your hunger to an extent with less calories, fulfilling nutritional requirements and aid great results by losing weight without feeling hungry.

Amplification Of Immune System:

Jackfruit contains plenty of immune boosting agents like Vitamin A and Vitamin C that may help prevent sickness. This also claims that consumption of jackfruit might be helpful for decreasing the risk of viral infections.

As jackfruit is an excellent source of Vitamin C, it helps in supporting and maintaining the immune system. This plays a vital role in repairing damaged cells and helping the body to absorb other essential nutrients like iron. People who are manifested in smoking cigarettes, supreme physical exercise or extreme cold temperatures have shown positive outcome from additional Vitamin C. In the current population Vitamin C has shown a great result by lowering the risk of the common cold by upto 50%. Vitamin C acts as a magnificent wound healer, which is also a precursor to collagen.

Jacalin: is a protein compound found in jackfruit seeds. Jacalin is a lectin that adheres with definite carbohydrates. Recent studies claim few mechanisms by which jacalin shields CD4 cells from HIV virus. However, there is no current vaccine for HIV, this research article has prospective future assurance to treat the disease.

May Improve Skin Problems:

Here, the fruit contains abundance of Vitamin C and several such nutrients and antioxidants that may polish up skin health. This protects the skin from getting damaged that occurs in the account of the natural aging process and persistent exposure to the sun. Vitamin C is a requisite source for the production of Collagen, gives smoothness and strengthens the skin.

Improvement of Heart Health:

Jackfruit might have the possibility to lower the risk of heart diseases due to its higher content of potassium, dietary fibre and antioxidants.

The impressive thing about Jackfruit is that it contains no saturated fat and trans fat. It is rich in dietary fibre which makes it fit well for people suffering from heart problems. Thus, potassium present in jackfruit synchronizes blood pressure, decreasing the risk of a heart attack or stroke.

According to American Heart Association's recommended dietary pattern, consumption of a high fiber diet can reduce the risk of cholesterol levels by as much as 10%. The fruit has a higher percentage of soluble fiber which makes it more advanced and superior for removal of cholesterol from the body. Unquestionably, jackfruit is a better and liable alternative for heart patients. Hence, there should be deliberation of adding jackfruit to your daily foodstuff.

Enhancement of Sleep Quality:

Magnesium is a desirable source for improving sleep quality and reduction of insomnia events, chiefly for adults who are at peak risk of magnesium deficiency. 48 milligrams of magnesium is found in one serving of jackfruit. However, the total recommended dietary allowance of magnesium scales between 300-350 milligrams. Even though one cup of jackfruit would not meet this exhortation on its own, it can help you get closer to your target.

Building Bone Strength:

Manganese is a crucial micronutrient for bone formation. Jackfruit is a fair source of manganese which ranges in between 0.07-0.09 milligrams per serving. Prior investigations have implemented that postmenopausal women established higher serum manganese levels that are positively associated with bone mineral density and low probability of fractures.

Longevity:

Present studies have promoted that low utilization of fruits and vegetables shortens life rather than lack of exercise. So cooking raw jackfruit as a meal and the quantity consumed in one meal itself is equal to the quantity of vegetable and fruit we consume in our daily meals and routine.

Jackfruit being less acidic, is the only fruit which can be taken as a meal by substituting regular carbohydrates like wheat and rice in the whole part.

Despite that, the epic development with raw jackfruit is not the research result on its health profits, it's the invention that raw jackfruit in the form of powder has an adhering factor in between rice flour and wheat flour. This permits us to add raw jackfruit in our traditional Indian foods, without observing any alteration of change or texture.

One-third of rice quantity can be reduced from upma, idli, dosa, dhoklas, appam, puttu. Similarly, some quantity of wheat can be reduced from rotis, chapatis, parathas and so on. After these small moderations, convincing results can be observed in your health.

Therefore, raw jackfruit can be put on to your favourite meal 365 days.

Adverse Effects:

Having said that jackfruit is safe for most, still few individuals should limit or avoid jackfruit. Certain people may suffer allergies from birch pollen or various other allergies. For some individuals who face an allergy to other tropical fruits, latex, or birch trees may develop a jackfruit allergy more likely.

Furthermore, due to its potential to lower blood glucose levels, people with diabetes might need to have their medications get changed if they consume this fruit on a regular basis. In these critical conditions it is better to consult your diabetologist or doctor before proceeding further for eating.

Nonetheless, consumption of jackfruit has never been a root to any serious problem, and it is safe for the majority of people to eat.

Conclusion:

Not only the fruit and the seeds but jackfruit can also be consumed in the form of flour which gives a way for a number of different healthy recipes. It is a great alternative for diabetics as the GI (glycemic index) of jackfruit is low(60-65) which ultimately controls the carbohydrate intake as it also contains fiber, proteins, some vitamins and minerals which also plays an important role in weight loss or weight management. However due to its texture and firmness it is a great substitute for meat and is now popular among Vegans as vegan meat. Jackfruit has been found to be effective in colon cancer. Due to the presence

of all phytonutrients and antihypertensive effect, it enhances heart health while keeping a check on cholesterol and promotes optimum health increasing the immunity as a result of the antioxidants present.

Future Aspects:

Due to its consumption in several forms and growing popularity as vegan meat, it can be used for the production of several products like marmalade skincare products and so on.

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AUTHORS



Author. Prashant Singh Parihar.



Co.Author. Shibani Brahma.



Co.Author. Aditi Shirole.