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Proceeding Paper

Effect of "Jackfruit" the Gift of Nature on Human Health: A Review †

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Abstract: Plant based diets are a vital way for people to improve their health and reduce the risk of chronic illness. Jackfruit (*Artocarpus heterophyllus*) is a tropical climacteric fruit, belonging to Moraceae family, is native to Western Ghats of India and common in Asia, Africa, and some regions in South America. 'The poor man's fruit' has been mentioned as 'Panasa' in ayurvedic texts such as the Charaka Samhita, Susruta Samhita. It is the largest edible fruit in the world. Jackfruit is rich in nutrients including carbohydrates, proteins, vitamins, minerals and phytochemicals. The jackfruit's seed to rind has the health benefits. It is effective in constipation, osteoporosis, anemia etc. The unripen fleshy parts are used to make lots of recipes. The flesh in fully ripen stage can be eaten directly as fruit, also can make different food products such as Jam, Ice cream, Jellies etc. The parts of jackfruit tree including fruits, leaves, bark have been used as medicines due to its anticarcinogenic, antimicrobial, antifungal, anti-inflammatory, wound healing and hypoglycemic effects. The aim of this review is to establish the health benefit of jackfruit on human health.

Keywords: jackfruit; Panasa; *Artocarpus heterophyllus*; constipation

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1. Introduction

Jackfruit is an indigenous fruit tree of South India. Besides being abundant in kerala, Jackfruit has a high nutritional value, which makes it the official fruit of Kerala. A jackfruit tree can yield more than 100 fruits a year and lifespan for more than 120 years.

In Kerala Jackfruit is called 'Chakka'. Average weight of Jackfruit is 11 kg, Jackfruit is consumed as fruit as well as a vegetable, The fruit is grouped into 2 varieties, one is small, fibrous, soft, and mushy, and the carpels are sweet, other variety is crispy and crunchy. The unripen fleshy parts are used to make different recipes. The fully ripened fruit's fleshy parts can be eaten directly as fruit and also can be made into different food products such as Jam, Ice cream, Jellies etc. Jackfruit is a good source of nutrients that is essential for health.

2. Materials and Method

Source of Data Collection

Data collected from Internet browsing like PubMed, Google Scholar, Science direct were searched with Boolean operators such as AND, OR and filters such as relevant, FULL TEXT are selected for this review.

3. Results and Discussion

It is a delicious fruit with high nutritional content and is used in fruit salads.

Table 1. Nutritional profile of Jackfruit (Value per 100 g).

Nutrients	Young Fruit	Ripe Fruit	Seed
Water (g)	76.20–85.20	72.0–94.0	51.0–64.50
Protein (g)	2.0–2.60	1.20–1.90	0.40–0.43
Fat (g)	0.10–0.60	0.10–0.40	0.40–0.43
Carbohydrates (g)	9.40–11.50	16.0–25.40	25.80–38.40
Fiber (g)	2.60–3.60	1.0–1.50	1.0–1.50
Sugar (g)	-	20.60	-
Minerals (g)	0.90	0.87–0.90	0.90–1.20
Calcium (mg)	30.0–73.20	20.0–37.0	50.0
Magnesium (mg)	-	27.0	54.0
Phosphorus (mg)	20.0–57.20	38.0–41.0	38.0–97.0
Potassium (mg)	287–323	191–407	246
Sodium (mg)	3.0–35.0	2.0–41.0	63.20
Iron (mg)	0.40–1.90	0.50–1.10	1.50
Vitamin A (IU)	30	175–540	10–17
Thiamine (mg)	0.05–0.15	0.03–0.09	0.25
Riboflavin (mg)	0.05–0.20	0.05–0.40	0.11–0.30
Vitamin C (mg)	12.0–14.0	7.0–10.0	11.0

According to their plant morphology, 8–15% of the fruit contain seeds surrounded by brown spermoderm which cover the white cotyledon that is high in starch and protein [2].

Leaves-The jackfruit leaves have been used as anti-bacterial, anti-diabetic, anti-oxidant [3], anti-inflammatory & anti-helminthic [4].

Jackfruit is rich in magnesium which helps to reduce the Blood pressure, maintain bone health and helps in calcium absorption which plays a vital role in strengthen the bones [4].

Seeds-They contain a high amount of protein which helps in prevention of mental stress & anxiety, it has low water and fat absorption capacities that help to prevent obesity. Jackfruit seeds contains increase levels of HDL cholesterol and they reduce the level of LDL cholesterol [5].

Fruits-Jackfruit contain rich amount of fiber, so it helps to maintain bowel movements and prevent from constipation. The natural chemicals present in jackfruit may help to prevent ulcer formation inside the stomach, rich amount of fiber reduce the risk of acid formation [6].

Body digests and absorbs jackfruit in a slower phase, that means blood sugar won't rise as quickly as it might when you eat other fruits.

The potassium in jackfruit could help lower blood pressure, which can help from heart disease, stroke, and bone loss. The high amounts of vitamin C in jackfruit may help protect skin from sun damage.

Anti-cancer [7]-Phytonutrients, like flavonoids, Saponins & tannins are compounds that might have cancer-fighting benefits, such as preventing cancer cells forming in the body.

It is estimated that ten lakh tons of jackfruits are lost every year. It can be preserved by dehydration method; The water can be extracted from the jackfruit by using an electrical dryer and wood-burning dryer. The advantage of this method is no preservatives are used in it; raw jackfruits also preserve like this for long term use. The seeds can be stored as powder and can be used for making coffee, through this we can have healthy caffeine-free coffee.

4. Conclusions

Jackfruit is safe and nutritious for most of the people, but in some people, it may cause stomach discomfort which not yet be proved scientifically. Almost all part of jackfruit is edible like seeds, leaves, stem. Jackfruit is used to prepare many products in market. It provides sufficient nutrition to the body which enhance the health.

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