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# A mini review on Phytochemical and Pharmacological consideration of *Carica papaya* seed

Simanchal Panda\*, S.K. Panda, S.K. Martha

Jeypore College of Pharmacy, Rondapalli, Jeypore - 764002, Odisha, India.

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**ABSTRACT:** The plant *Carica papaya* is native to Mexico and Central America. Now it is cultivated throughout the world. In Ayurveda it is denoted as Chirbita. The whole plant is a medically useful. In this scientific review it is focused on the untold secrets of papaya seeds. Papaya contains two important chemical constituents as papain and chymopapain. In male tree, phenolic compounds are abundantly present. The other chemicals found are alkaloid, butonic acid, flavanols, linalool, tannin and terpene. The biological source of the medicinal plant is *Carica papaya* Linn. of family *Caricaceae*. The seed is useful in various ways as intestinal worms, urinary troubles, fever, indigestion, wounds, toothache, arthritis as well as antibiotics. Defatted and un-defatted seeds of papaya (*Carica papaya*) were analyzed for proximate composition, some toxicants, sugar composition, mineral content, physico-chemical properties of the seed oil and the fatty acid spectrum of the seed oil. The seed is a rich source of proteins (27.8 % undefatted, 44.4 % defatted), lipids (28.3 % undefatted) and crude fibre (22.6 % undefatted, 31.8 % defatted). It contains glucosinolates toxicants in the highest proportion. The seed is low in free monosaccharides. Sucrose is the predominant sugar (75.0 % of total sugars). Mineral content is generally low.

### Corresponding author\*

Mr. Simanchal Panda  
Asst. Professor  
Jeypore College of Pharmacy  
Rondapalli, Jeypore – 764002,  
Koraput, Odisha, India.  
Mail ID. [phrpvtltd@gmail.com](mailto:phrpvtltd@gmail.com)  
Tel No. +919090870494.

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### INTRODUCTIONS:

*Carica papaya* L (family: *Caricaceae*) is a fast growing, short-lived, single-stemmed, small tree, 2-10 m in height with straight, cylindrical, soft, hollow, grey trunk roughened by the presence of large leaf and inflorescence scars. The seeds are medicinally important in the treatment of sickle cell diseases <sup>[1]</sup>, poisoning related disorder <sup>[2]</sup>. The leaf tea or extract has a reputation as a tumor destroying agent <sup>[3]</sup>.

### Phytochemicals of *C. papaya*:

Oil extract showed very high levels of oleic and palmitic acids. Oil extract of *Carica papaya* contains endosperm protein which is a good potential source of supplemental protein. Benzylisothiocyanate is a chemical constituent may be present, whose physiology

has not been completely understood. The major sugars in papaya seed is sucrose. Beta xylose, -glucose, fructose and s-glucose. The minerals found in seeds are Ca, Na, K, and Mg. The seeds contained a fixed oil composed of myristic, palmitic, stearic, arachidic, behenic and unsaturated fatty acids, phospholipids, carpaine, benzylisothiocyanate, benzyl glucosinolate, glucopaeolin. The methanolic extract of the seeds of *C. papaya* was found to be ineffective at 1 mg/ml<sup>[3,4]</sup>.

#### Pharmacological uses of *C. papaya*:

The seeds are having as carminative, emmenagogue, abortifacient, vermifuge and counter-irritant activity. A seed extract is used to treat bleeding piles and enlarged liver and spleen. A seed paste with glycerine is applied to cure ringworm and psoriasis. The ripe seeds are taken with rice and useful to treat diarrhea. However, the methanolic extract effective against *A. flavus*, *C. albicans* and *P. citrinium*. The 2,3,4-Trihydroxytoluene effective against *A. flavus* and *C. albicans*. Thus, air dried *C. papaya* seeds are efficacious in treating human intestinal parasites and without significant side effects. Their consumption offers a cheap, natural, harmless, readily available monotherapy and preventive strategy against intestinal parasitosis, especially in tropical communities. The results showed that oral administration of *C. papaya* seed extract prevented ovum fertilization, reduced sperm cell counts, revealed sperm cell degeneration, and induced testicular cell lesion. These observations led to the conclusion that *C. papaya* seed extract oral administration could induce reversible male infertility and therefore could be used for pharmaceutical development of a male contraceptive<sup>[5,6]</sup>.

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Like green papaya, the seeds of papaya fruit contain high levels of the proteolytic enzyme papain, which can help rid your body of parasites such as intestinal worms. In the same way that papain breaks down undigested protein waste from your food, it can also dissolve the protective biofilm and fibrin that covers parasites, and particularly their eggs, on the walls of your lower intestine.

Alongside proteolytic enzymes, the seeds from papaya also contain a unique anthelmintic alkaloid called carpaine that has been shown to be very effective at killing parasitic worms and amoebas. Liver cirrhosis is a disease, usually caused by excessive alcohol consumption over many years, wherein the liver shrinks and becomes hardened. In this state it is ineffective at removing toxins from the body, leading to a variety of serious health problems. Papaya seeds are often reported as an effective natural treatment for liver cirrhosis and overall detoxification of the liver. Good levels of digestive enzymes in your diet also help to improve and normalize your intestinal ecology, making it much less hospitable to worms and other parasites and much harder for them to breed<sup>[7,8]</sup>.

The seeds of papaya have a strong antibacterial and anti-inflammatory effect on your digestive system. Studies have shown an extract made from papaya seeds is effective at killing E coli, Salmonella, Staph and other dangerous bacteria. As a natural remedy for food poisoning, papaya seeds should be taken at the first sign of sickness and continued 3 times a day with each main meal until symptoms subside. Oxidative stress is common culprit in chronic kidney disease, particularly in patients with diabetes, and can lead to renal failure wherein your kidneys can no longer properly filter metabolic waste from your blood. Proteolytic enzymes, like papain found in papaya seeds, are some of the most powerful natural substances for breaking down undigested protein in your digestive tract. Eating a small amount of papaya seeds with a meal containing a lot of meat is a simple way to improve protein digestion and prevent problems like constipation and bad gas later on<sup>[9,10]</sup>.

#### CONCLUSION:

The mini article review study shows the very rare studies of this common and abundantly available plant have dominant medicinal properties. This has to be focused in research of pharmacy. The contraceptive effect on male, antihelminthic effects, antifungal, antiviral and antibacterial effect showing *Carica papaya* a future herbal least side effect herbal medicine.

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