

# An Ethnopharmacological Impact of Litchi Chinese's Son- A Mini Review

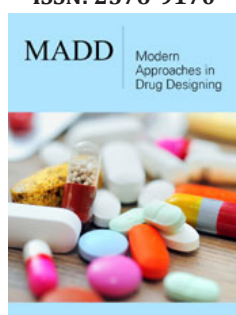
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## Abstract

Litchi chinensis Son (Sapindaceae), commonly known as Lychee is an excellent fruit that is used for a variety of medical purposes. This short review focused on the future usage of lychee for various diseases based on a literature study that discovered that phytoconstituents of lychee function as possible therapeutic agents.

**Keywords:** Litchi chinensis son; Active constituents; Pharmacological uses; Drug discovery

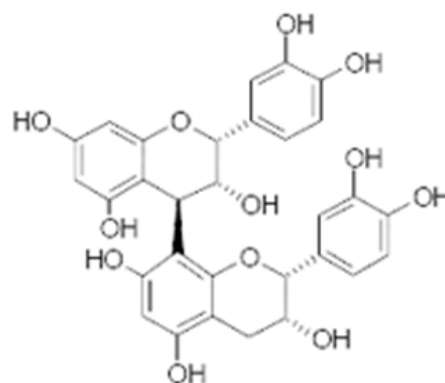
## Introduction

Traditional Chinese Medicine (TCM) has been utilized by successive generations in China and other nations for thousands of years to promote good health and treat various disorders. According to Traditional Chinese Medicine (TCM), the fruits and vegetables we consume have unique and substantial impacts on our bodies and they are classified as either warming or cooling, one of the most important tropical and subtropical fruit is lychee (Litchi chinensis Son). It has been widely cultivated in the Chinese provinces of Guangdong, Guangxi, Fujian and Sichuan. The purpose of this article is to provide an overview of several essential current pharmacological sciences as well as traditional lychee advantages [1].

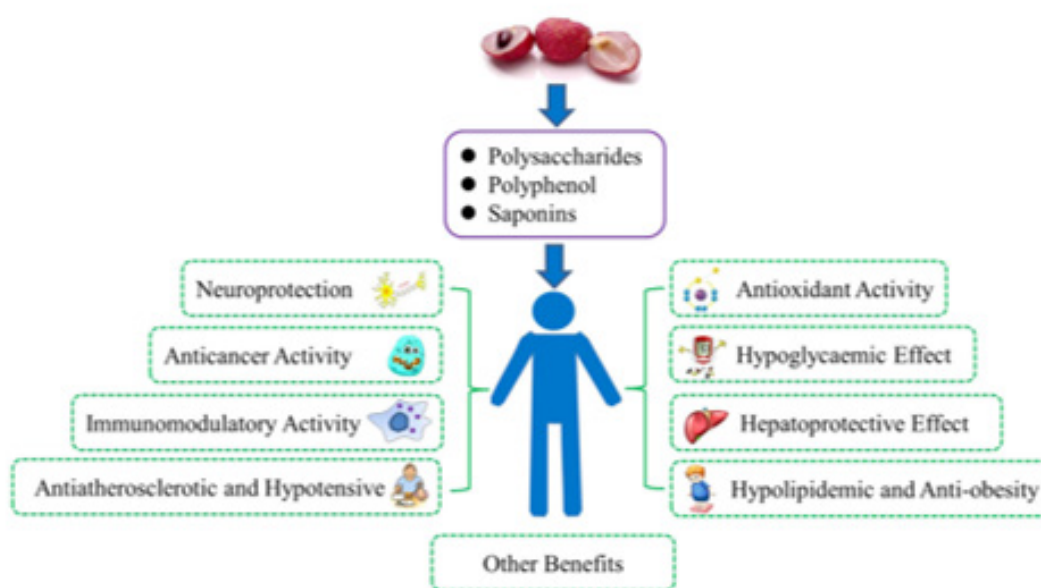
## Active constituent of lychee which act as potent pharmacological agent

Lychee fruits contain Oligonol, a low molecular weight polyphenol with antioxidant and anti-influenza virus properties. According to Sakurai et al. [2], oligonol has antioxidative properties and reduces the dysregulated expression of adipokine genes in adipocytes caused by a High Fat Diet (HFD) [2]. Choi et al. [3] have found that oligonol has a great preventive potential in diabetes and Alzheimer's disease [3]. According to Guo et al. [4], the peel and seed fractions of several fruits, such as longan and lychee seeds, have strong antioxidant activity and are rich sources of natural antioxidants [4]. Lychee also contain  $\alpha$ -carotene,  $\beta$ -carotene,  $\beta$ -cryptoxanthin and lycopene were in lychee pulp which are prominently work on improving immune system. Vitamin C and various phenolics are also a rich source present in lychee which were ethnopharmacologically used in various diseases like antiplatelet, antiviral, antimutagenic, antihyperlipidemic, antipyretic, anti-inflammatory, cough, flatulence, stomach ulcers, obesity, testicular swelling, skin diseases, promotes hair growth. Other significant health benefits include anticancer effects, cardiovascular disorders, improved digestion, cataract prevention, anti-influenza activity, weight loss assistance, regulating blood circulation, preventing blood vessel rupture, protection from herpes virus infection, strengthening bones,

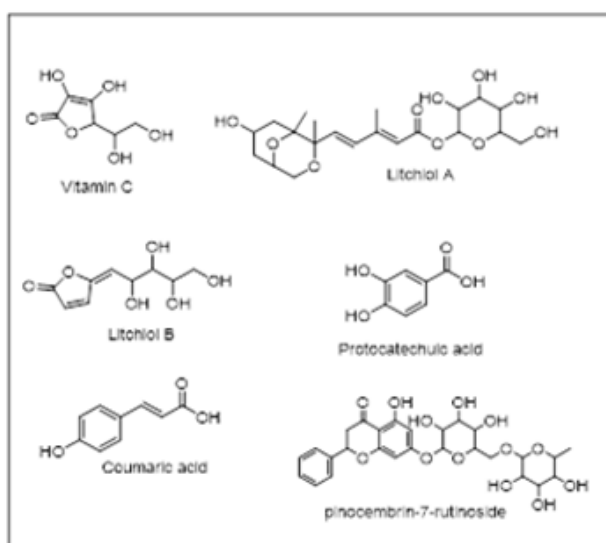
preventing anemia, and increasing libido (Figures 1 & 2). Lychee, on the other hand, might show some disruption in hormonal balance and induce allergic responses in certain people. Furthermore, due of the high sugar content, it may have a harmful effect on diabetes [1]. Litchi consumption usually causes unpleasant effects such as itching, urticaria, swelling of the lips and throat, dyspnea, and diarrhea. Litchi includes a high concentration of profilin, which might trigger anaphylaxis in certain people. Litchi pulp extract increased the release of proinflammatory mediators IL-1, COX-2, and iNOS while increasing the amount of anti-inflammatory mediator HO-1. There have been few investigations on the causes of adverse responses to litchi consumption. Identifying allergic or proinflammatory chemicals may allow the substance's structure or qualities to be adjusted during processing and storage (Figure 3).



**Figure 1:** Structure of oligonol.



**Figure 2:** Importance of litchi chinensis son in pharmacological field.



**Figure 3:** Vital chemical constituent of litchi chinensis son.

## Conclusion

We conclude that flavonoids, sterols, triterpenes, phenolic and other bioactive chemicals, these active constituents are very useful and play vital role in the future for treatment of any disease or disorder. Future research should emphasize on studies that explain the precise mechanism of health benefits and investigate specific applications of functional nutrients. Litchi safety and toxicological research, as well as its biological phytochemicals, are critical for its full application. Future prospective: Lychee has historically made important endowments to drug therapy, especially for cancer, cardiovascular and infectious diseases. However, natural products present challenges for drug discovery, such as technical barriers to screening, isolation, characterization, and optimization, which have contributed to a decline in the pursuit of their presence in the pharmaceutical industry since the 1990s. Several technological and scientific advances in recent years for various natural products, including improved analytical tools, production and genome

engineering strategies and advances in microbial culture, have addressed these challenges and created new opportunities.

## References

1. Sun W, Shahrajabian MH, Shen H, Cheng Q (2021) Lychee (*Litchi chinensis* Son.), the king of fruits, with both traditional and modern pharmacological health benefits. *Pharmacognosy Communications* 3(4): 22-25.
2. Sakurai T, Nishioka H, Fuji H, Najano N, Kizaki T, et al. (2008) Antioxidant effects of a new lychee fruit-derived polyphenol mixture, oligonol, converted into a low molecular form in adipocytes. *Biosci Biotechnol Biochem* 72(2): 463-476.
3. Choi JS, Bhakta HK, Fujii H, Min DS, Park CH, et al. (2016) Inhibitory evaluation of oligonol on  $\alpha$ -glucosidase, protein tyrosine phosphatase 1B, cholinesterase and  $\beta$ -secretase 1 related to diabetes and Alzheimer's disease. *Arch Pharm Res* 39(3): 409-420.
4. Guo C, Yang J, Wei J, Li Y, Xu J, et al. (2003) Antioxidant activities of peel, pulp and seed fractions of common fruits as determined by FRAP assay. *Nutrition Research* 23(12): 1719-1726.