



## **Sungkai Leaf Potential as Herbal Medicine**

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### **ABSTRACT**

Indonesia is a tropical country that has biodiversity. One of the biodiversity in Indonesia is the availability of many medicinal plants. The Indonesian Ministry of Health has released a formulary of Indonesian medicinal plants in 2017. One of the plants that has medicinal properties is the sungkai plant. Sungkai plants grow in most parts of Indonesia, including South Sumatra. This plant is also often planted in the yard as a shade. Empirically, sungkai leaves have been used as medicine by various tribes in Indonesia. People use boiled water from sungkai leaves or crushed sungkai leaves as herbal medicine. The phytochemical content of sungkai leaves includes alkaloids, flavonoids, triterpenoids, steroids, phenols and saponins. The results of various studies show that sungkai leaves have benefits as anti-fever, antimalarial, antibacterial and antioxidant. Sungkai leaves also have the ability to increase endurance, so they can be used to fight infectious diseases including Covid19. Sungkai leaves can be used for herbal medicine either as a preventive or therapeutic agents. Further development for the use of Sungkai plants as medicine needs to be done to assess side effects and therapeutic effects more efficiently.

Keywords: Herbal medicine, Phytochemical, Sungkai leaves.

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### **INTRODUCTION**

Indonesia is one of the countries in the world with high biodiversity. Indonesia is located in the tropics and has a relatively high rainfall, so it is a region with higher biodiversity than the subtropical (temperate) and polar (pole) regions. Indonesia's high biodiversity is found in the various ecosystems that exist in Indonesia. Indonesia has biodiversity comparable to Brazil and has more than five times as much land. Indonesia's biodiversity is very high, with



only about 6,000 plant species, 1,000 animal species and 100 microorganisms, the potential of which is known and used by the Indonesian people to meet their needs.<sup>1</sup>

Indonesia is known not only for its abundant natural resources, but also many kinds of herbal plants that can cure various diseases. Indonesia is **home** to 40,000 species of medicinal plants, of which 30,000 species are common throughout Indonesia. This potential is land that can be used to maintain public health and treat various diseases. In addition, medicinal plants are not very effective in treating various diseases. Of course, currently there are many medicines that are made using medicinal plant materials. The combination of modern medicines and natural ingredients is a breakthrough innovation whose development must be supported by different social classes.<sup>1,2</sup>

Throughout the 2014 World Health Assembly, the World Health Organization (WHO) recommended the use of traditional medicine for the prevention and treatment of chronic, degenerative, and cancerous diseases. According to WHO, traditional medicine, including herbal medicine, is continuously used in all countries of the world. However, treatment with traditional medicine must be rational and evidence-based.<sup>3</sup>

In developing countries, traditional medicine users make up more than 80% of the total population. In Indonesia, the government has declared that the use of traditional medicines by consuming herbal medicines. Herbal medicines, or other medicines derived from medicinal plants can promote people's independence and lead a healthy life. Treatment must be safe and beneficial, whether single or in integrative medicine services.<sup>3</sup>

The development of the pharmaceutical industry aims to achieve a better level of public health and welfare. The use of Chinese herbs and natural medicinal ingredients has made a real contribution to the Indonesian pharmaceutical industry. In developing countries, including Indonesia, the tendency to use medicines containing natural ingredients is increasing, both for health promotion and disease treatment. So far, natural remedies have been used based on empirical practice: disease prevention, health promotion, disease treatment, and cosmetics. As a result, medicines made with natural Indonesian ingredients can become trusted products that are accepted by all groups. Therefore, it is necessary to improve quality, prove safety, study effectiveness, and prove scientifically.<sup>1,2</sup>

Currently, many stakeholders, including modern pharmaceutical companies, are taking advantage of the diverse potential of Indonesia's plant biodiversity to develop various preventive and therapeutic health products. The government regulates the use of herbal medicine in health facilities through several government regulations, ministerial regulations, and statutory regulations. The use of natural materials that can be used as pharmaceutical raw materials is also regulated in the regulation of the Food and Drug Supervisory Agency (BPOM) to supervise the import of traditional pharmaceutical raw materials. The latest government-issued guideline is the Minister of Health Ordinance No. Hk.01.07/Menkes/187/2017 of the Republic of Indonesia, which provides "information on the types of medicinal plants used". In Indonesia, it has proven to be safe and clearly beneficial to health when used as intended.<sup>2,3</sup>



One of the medicinal plants that have many medicinal properties is the sungkai plant. Sungkai plants are empirically used as various kinds of medicine by the community. In addition, the results of the study also show that the sungkai plant has an effect or efficacy as a medicine. Therefore, the sungkai plant is included in the guidelines is the Minister of Health Ordinance No. Hk.01.07/Menkes/187/2017 regarding information on the types of medicinal plants used. This article will review the sungkai plant and its benefits as herbal medicine.<sup>4</sup>

## DISCUSSION

The Sungkai plant is one of the native plants of Kalimantan. This plant is native to Kalimantan, but is also found in West Sumatra, Bengkulu, Jambi, South Sumatra and West Java. Sungkai grows in secondary forests of various types of soil. However, Sungkai usually grows on riverbanks and other well-hydrated soils and is flooded with freshwater each season. The Sungkai plant is suitable for cultivation in tropical regions with rainfall A to C, both in dry and slightly moist soils at sea level 0 m to 600 m above sea level. This plant is a type of wood that can reach a height of 2030 meters and a trunk diameter of 60 cm or more. The height of the knotless stem can reach 15 meters.<sup>4</sup>

Sungkai plant has a latin name *Peronema canescens* Jack. The taxonomy of this plant is as follows<sup>5</sup>

Kingdom : Plantae  
Division : Tracheophyta  
Class : Magnoliopsida  
Order : Lamiales  
Family : Lamiaceae  
Genus : Peronema  
Species : *Peronema canescens* Jack

This plant has small curved straight stems. The skin is gray or tanned, and the shallow grooves melt into small, thin pieces. The outer shell is brown, yellow or pink. The wood is light brown and tiered. The branches are full of fine hair.<sup>5</sup>

Sungkai is a type of high-value wood that can be used for a variety of purposes, including building materials, flooring, wallboards, carvings, furniture, carvings, carvings, handicrafts, and fine finishing. In addition, the leaves of sungkai are useful as a medicine for dental diseases and can reduce fever.<sup>5</sup>



Figure 1. Sungkai Plant. Left: Sungkai Leaf; Middle: Sungkai Trunk; Right: Dried leaves (Simplicia).<sup>5</sup>

### **Empirical Benefits of Sungkai plants**

The young leaves of this plant are a popular remedy for children with skin diseases such as fever, headaches, toothaches, asthma and even tinea versicolor. Decoctions of young Sungkai leaves are also thought to be effective in promoting menstruation in women and supporting the birth rate of women's uterus. Residents use the size of an adult's hand grip as a one-time dose of sungkai leaves.<sup>3,6,7</sup>

In Bengkulu, this plant can be found in forests, gardens and courtyards. This plant is usually used as a living fence behind the house. The Serawai Bengkulu usually use the leaves of Sungkai to cook the medicine. In the meantime, the Lembak Bengkulu usually use young Sungkai leaves to reduce fever and malaria and maintain good health. This Kalimantan Dayak plant is still widely used for treatment and health care. They usually use young sungkai leaves for colds, fever, and annelid worms. The young leaves of this plant may also be used for bathing women after childbirth. In addition, young Sungkai leaves are usually used as a mouthwash to prevent toothache. In South Sumatra and Lampung, Sungkai leaves are commonly used as anti-plasmodium and fever drugs.<sup>6-8</sup>

### **Phytochemical content of Sungkai leaves**

Sungkai leaves have health benefits because they contain secondary metabolites that are involved in homeostatic processes in the body. Several research shows that the leaves of Sungkai contain alkaloids, flavonoids, triterpenoids, steroids, phenols and saponins. Meanwhile, others said that the ethanol extract of Sungkai leaves contained peronemin, citosterol, isopropanol, phytol, diterpenoids and flavonoids.<sup>9,10</sup>



## **Research Findings**

The results of some studies show that Sungkai leaves are antibacterial (dose of 500-2000 ppm), antipyretic (dose of mice weighing 0.562 mg/kg), antiplasmodium (dose of mice weighing 0.084 g/kg) and antioxidant (IC<sub>50</sub> about 12 ppm). It has been shown that it may contain agents. In addition, Sungkai leaves are also useful as an immune booster, preventing infection by increasing the white blood cell count at an extract dose of 0.562 mg/kg BB. Ethanol extract of Sungkai leaves increased white blood cells by 36%. The dose corresponds to 15-30 grams of moist leaves or 3-5 grams of dry leaves or *symplica*.<sup>3,9,10</sup>

Seeing the effect of sungkai leaf as an endurance enhancer, there is an opportunity for the development of sungkai leaf medicine as an alternative therapy for COVID-19 patients. Further research is also needed to assess the side effects of using sungkai leaves for health. Sungkai leaf decoction can be drunk as a preventive measure or as a therapy for patients.<sup>4,10</sup>

## **CONCLUSION**

Sungkai plant is a plant that grows in Indonesia, including South Sumatra. Sungkai leaves have been believed by the public to have various benefits as medicine. The results also showed that sungkai leaves contain various secondary metabolites and have medicinal properties such as antimalarial, antibacterial, anti-fever, and antibacterial.



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