

Benefits of Binahong Leaves for Health: Natural Solutions for Various Diseases

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Abstract

*This study aims to explore the benefits of binahong leaves (*Anredera cordifolia*) as a natural solution for various diseases. The method used is a literature review by collecting and analyzing scientific sources, such as indexed journals, reference books, and research reports from academic and health institutions. The analysis focused on the content of active compounds, mechanisms of action, and the effectiveness of binahong leaves based on laboratory tests and clinical studies. The results showed that binahong leaves contain flavonoids, saponins, and alkaloids that have antioxidant, anti-inflammatory, and antibacterial effects. The benefits include accelerating wound healing, lowering blood pressure, and potential therapy for diabetes and cancer. Its use in traditional medicine has long been proven, both in the form of decoctions, juices, and external medicines. Although its effectiveness is supported by various studies, further studies are needed to ensure safety and proper dosage, especially for long-term use. With increasing awareness of natural medicine, binahong leaves have great potential as an alternative in the medical world. The development of binahong-based products can expand its use as a complementary therapy that supports conventional medicine.*

Keywords: binahong leaves, health, active compounds, natural medicine, complementary therapy.

INTRODUCTION

Health is a fundamental aspect of human life that affects the quality of life and productivity of individuals. Along with the development of the era, various diseases continue to emerge, whether caused by infections, metabolic disorders, or unhealthy lifestyles. This requires effective, safe, and easily accessible treatment solutions for the community. In seeking these solutions, the use of herbal plants as an alternative treatment has been carried out since ancient times and continues to develop today. Traditional herbal-based medicine is widely used because it is considered more natural, has fewer side effects than synthetic drugs, and is often more affordable economically. Various studies have also proven that herbal plants contain active compounds that can help in the prevention and treatment of various diseases (Hidayat, AA 2022).

In the modern era, attention to herbal plant-based medicine is increasing, especially due to the trend of returning to natural ingredients and increasing scientific research supporting its effectiveness. The medical world is now increasingly open to the use of herbal plants as complementary therapies or even as alternatives to conventional medicine. However, although its benefits are widely known, the development of herbal plants as medical drugs still requires further in-depth study, including strict clinical trials to ensure the right dosage, effectiveness, and safety of its use in the long term (Pramono, JS, et al)

With a combination of traditional knowledge and scientific approaches, the use of herbal plants has the potential to be a more holistic solution in maintaining health and treating various diseases. Therefore, research and innovation in the field of herbs must continue to be developed so that their benefits can be optimized and widely applied in the modern medical world (Yasir, M., et al. 2025). One of the plants that has great potential in the world of herbal medicine is binahong leaves. Herbal plants have long been used in traditional medicine in various cultures to treat various diseases and maintain health. Various types of plants contain active compounds that are beneficial, such as turmeric which contains curcumin as an anti-inflammatory and antioxidant (Agustina, EDR 2019). Its uses are also diverse, ranging from potions or teas that are drunk, essential oils that are inhaled or applied, to capsules or tablets as supplements. Some herbal plants are also used in the form of ointments or pastes to treat wounds on the skin. The benefits are very broad, such as increasing endurance, facilitating digestion, maintaining heart health, and overcoming stress and insomnia. In various traditional medicine systems, such as Ayurveda in India, traditional Chinese medicine, and jamu in Indonesia, herbal plants have become an important part of health therapy. However, although many have been proven to be beneficial, their use must still be done wisely and in the right dosage to avoid side effects. Therefore, consultation with a health expert is highly recommended before using herbal plants as the main treatment.

Binahong leaves (*Anredera cordifolia*) are climbing plants from the Basellaceae family. This plant is widely found in Asia, including Indonesia, and has long been used in traditional medicine. People know binahong leaves as a natural medicine that can be used to treat various health problems (Riska, NM 2024). This plant has a soft and branched stem, with heart-shaped leaves that are shiny green and have a slightly thick texture. Binahong also has tubers in the roots that function as food reserves and have medicinal value. The flowers are small, white to cream in color, and arranged in bunches. Propagation of this plant can be done through seeds, stem cuttings, or tubers (Melia, AP 2023).

Binahong thrives in tropical and subtropical areas with quite high rainfall. This plant is usually found in lowlands up to an altitude of 1,000 meters above sea level. Binahong often grows wild in forests, cliffs, or fences, but is also widely cultivated in home gardens. This plant requires sufficient exposure to sunlight, although it can still survive in slightly shady places. In its history of use,

binahong has long been used in traditional medicine in various countries. In China, this plant is used to accelerate wound healing, overcome digestive disorders, and increase endurance. In Indonesia, binahong is known as a herbal medicine that can help heal wounds, increase stamina, and relieve inflammation. Meanwhile, in Vietnam and Korea, binahong is often consumed in the form of herbal tea or extract as a health tonic. The content of active compounds such as flavonoids, saponins, and alkaloids in binahong acts as an antioxidant, anti-inflammatory, and antibacterial, making it a useful plant in alternative medicine. With its extensive benefits, binahong is one of the medicinal plants that is increasingly attracting attention in the world of alternative medicine. Its versatile use, whether as a tea, extract, or traditional herb, makes this plant a natural choice for improving overall health. As science advances, further research into the effectiveness and working mechanisms of binahong is expected to further strengthen its role in the field of health and herbal medicine.

Binahong leaves (*Anredera cordifolia*) contain various active compounds that play an important role in their therapeutic effects. One of the main compounds is flavonoids, which have antioxidant properties and function to protect body cells from damage caused by free radicals. This compound also plays a role in inhibiting the growth of cancer cells and increasing the body's resistance (Riswanto, FDO, et al. 2023). In addition, binahong leaves contain saponins, which are known to have antibacterial and anti-inflammatory properties, making them effective in accelerating the wound healing process and fighting infections. Not only that, binahong leaves also contain alkaloids, which contribute to accelerating tissue regeneration and wound healing. Alkaloids work by stimulating collagen production, which is very important in the process of repairing body tissue. The combination of flavonoids, saponins, and alkaloids makes binahong leaves one of the herbal plants that have many benefits in the world of health (Nugroho, AA, et al. 2020). With its antioxidant, antibacterial, and wound healing properties, binahong leaves can be used as a natural therapy for various health conditions, from skin care, wound healing, to companion therapy for chronic diseases. Although the benefits of binahong leaves have been widely known empirically, further scientific research is still needed to support its use in modern medicine. Studies on the pharmacological effects and mechanisms of action can provide deeper insight into the benefits and potential for its development in the medical world.

This article aims to explore more deeply the benefits of binahong leaves (*Anredera cordifolia*) based on various studies that have been conducted. This plant has long been used in traditional medicine and is believed to have various health benefits, ranging from wound healing to managing chronic diseases such as diabetes and hypertension. By understanding the mechanism of action and effectiveness of the active compounds contained in binahong leaves, this article attempts to provide a scientific overview of how this plant works in the body. In addition, discussions on how to use it properly, the recommended dosage, and potential side effects are also important parts of this study. It is hoped that the information presented in this article can be a useful reference for the general

public in utilizing binahong leaves more optimally and safely. In addition, this article can also be a reference for health practitioners in exploring the potential use of binahong leaves as a supporting therapy in various medical conditions. With a more in-depth scientific approach, it is hoped that binahong leaves can be increasingly recognized as a natural solution in maintaining and improving health.

METHODOLOGY

This study uses a literature review method by collecting and analyzing various scientific sources that discuss the benefits of binahong leaves (*Anredera cordifolia*). The sources used include indexed scientific journals, reference books, and research reports from various credible academic and health institutions. The data collection process is carried out with strict selection of relevant literature, especially those discussing the content of active compounds, mechanisms of action in the body, and the effectiveness of binahong leaves in treating various health conditions. In addition, this study also reviews various laboratory tests and clinical studies that have been conducted to evaluate its benefits.

The analysis was conducted by comparing research results from various sources to gain a more comprehensive understanding. The main focus of this study was to see how binahong leaves work pharmacologically, their therapeutic effects, and the safety of their use. With this literature-based approach, it is hoped that more valid conclusions can be obtained regarding the potential of binahong leaves as a natural solution in the world of health. The data collection process was carried out by searching for literature that discusses the chemical content, pharmacological effects, and use of binahong leaves in the medical world. Keywords used in the search include "binahong leaves", "*Anredera cordifolia*", "herbal benefits", and "natural medicine".

RESULTS AND DISCUSSION

Nutritional Content and Active Compounds in Binahong Leaves

Binahong leaves (*Anredera cordifolia*) contain various nutrients and active compounds that provide health benefits for the body. In terms of nutritional content, binahong leaves have protein that helps in repairing body tissue, fiber that facilitates the digestive system, and vitamin C which acts as an antioxidant and supports wound healing (Yuliana, D. 2022). In addition, binahong leaves are also rich in vitamin A which is important for eye health and the immune system, iron which contributes to the formation of red blood cells, and calcium and phosphorus which maintain the strength of bones and teeth. In addition to essential nutrients, binahong leaves also contain various active compounds that play a role in their therapeutic effects. Flavonoids in binahong leaves act as antioxidants that protect the body from free radicals, while saponins have antibacterial properties and boost the immune system (Fadhil, AR, et al. 2024). The alkaloids contained in this plant function as natural pain relievers and have antimicrobial effects that help fight infections. In addition, polyphenols in

binahong leaves help reduce inflammation and maintain cell health, while terpenoids contribute to accelerating wound healing.

The combination of nutrients and active compounds in binahong leaves makes it a useful herbal plant in traditional medicine. Various studies have shown that binahong leaves can help accelerate wound healing, increase endurance, reduce inflammation, and maintain healthy skin and digestive systems. Its ability to accelerate the wound healing process comes from the flavonoid and saponin content which act as antioxidants and antibacterials, so they can help fight infections and accelerate cell regeneration. In addition, consumption of binahong leaves is also associated with benefits in controlling blood sugar and cholesterol levels. Active compounds such as flavonoids and polyphenols are known to increase insulin sensitivity and help lower blood sugar levels, making them beneficial for diabetics. Meanwhile, the saponin content in binahong leaves can help lower bad cholesterol (LDL) levels while increasing good cholesterol (HDL) levels, thereby reducing the risk of heart and blood vessel disease (N Nurchayati, et al. 2021).

Not only consumed, binahong leaves are also often used as external medicine for various health problems. Thanks to its anti-inflammatory and antimicrobial properties, binahong leaves are often used in the form of ointments or fresh leaf paste to treat burns, ulcers, and other skin disorders such as acne and eczema. In addition, binahong leaves that are brewed as herbal tea or extracted into supplements are also believed to increase stamina, overcome digestive disorders, and help detoxify the body naturally. With its various benefits, binahong leaves are increasingly getting attention as a potential medicinal plant in the world of alternative medicine. Its flexible use, both in the form of consumption and external use, makes it a natural choice for those looking for herbal solutions to maintain overall health. As scientific research develops, it is hoped that the benefits of binahong will be increasingly recognized and can be used more widely in the medical and pharmaceutical fields.

Research shows that binahong leaves have various bioactive compounds that provide health benefits. The main content in binahong leaves such as flavonoids, saponins, and alkaloids play an important role in antioxidant, anti-inflammatory, and antibacterial effects. Flavonoids function as antioxidants that can ward off free radicals and reduce oxidative stress in the body, so they can help in preventing various degenerative diseases.

Benefits of Binahong Leaves for Health

In terms of wound healing, research shows that binahong leaf extract can increase collagen production and accelerate tissue regeneration. Studies on test animals show that wounds given binahong leaf extract heal faster than the control group. This effect is associated with the saponin content which stimulates cell proliferation and accelerates the formation of new tissue (Pangayoman, SGD 2023). In addition, research has also found that binahong leaves have the potential to control blood sugar levels. Binahong leaf extract is known to increase insulin sensitivity and inhibit enzymes that play a role in breaking down carbohydrates

into simple sugars. This makes it an alternative natural therapy for people with diabetes mellitus. Several studies have been conducted to reveal the benefits of binahong leaves (*Anredera cordifolia*) in the world of health. Research by Wahyuddin et al. (2015) found that binahong leaf extract was able to inhibit the growth of *Staphylococcus aureus* and *Escherichia coli* bacteria at certain concentrations, indicating its potential as an antibacterial agent. Meanwhile, research by Anggraeni Widya Prasanti revealed that boiled binahong leaf water is effective in lowering blood pressure in hypertension patients, with the result being a decrease from 140/80 mmHg to 130/80 mmHg.

In addition, research by Muh. Sulaiman Dadiono (2022) shows that the binahong plant has the potential as an alternative medicine in the field of aquaculture, especially in overcoming bacterial attacks on fish. In the field of dermatology, research by Windy Kurniawati (2018) found that binahong leaf extract can inhibit the growth of *Propionibacterium acnes*, the main bacteria that causes acne, so it has the potential as a natural ingredient in skin care products. The results of another study that did not include the author's name in 2016 also showed that natural masks made from binahong leaves can accelerate acne healing because they contain flavonoids, saponins, terpenoids, and essential oils that are antibacterial and anti-inflammatory.

In the cardiovascular field, studies have shown that consuming binahong leaves can help lower blood pressure and increase blood vessel elasticity. The alkaloid content in binahong leaves is known to have a vasodilating effect that can help reduce high blood pressure. In addition, the antibacterial properties of binahong leaves have also been confirmed through various studies. Laboratory tests show that binahong leaf extract can inhibit the growth of pathogenic bacteria such as *Staphylococcus aureus* and *Escherichia coli*. This proves that binahong leaves can be a natural alternative in the treatment of bacterial infections (Umi Afifah, N. 2023).

Several studies also indicate the potential of binahong leaves in cancer therapy. The flavonoid and saponin content in binahong leaves is known to have antiproliferative effects that can inhibit the growth of cancer cells. However, further research is still needed to ensure its effectiveness and safety in humans. Research by Rofiqoh and Yuliana (2016) in the Scientific Journal of Pharmacy examined the antioxidant activity of binahong leaf extract using the DPPH method. The results showed that binahong leaf extract had significant antioxidant activity, which could play a role in inhibiting the growth of cancer cells through a protective mechanism against oxidative stress. Meanwhile, Rofaqqo Hakki (2020) in his research at Sriwijaya University evaluated the antioxidant activity of binahong leaf infusion. Although the results showed that its antioxidant activity was relatively weak (IC_{50} of $28,935.192 \pm 732.990$ ppm), the infusion still contains flavonoid, polyphenol, and saponin compounds that play a role in inhibiting cancer cell proliferation. In addition, Rama Andriyono (2019) in the National Journal conducted a literature study related to the potential of binahong in treating wounds and stated that flavonoids in binahong leaves have anti-

inflammatory and regenerative effects that can help inhibit the growth of cancer cells.

How to Process and Use Binahong Leaves

With various health benefits that have been studied, binahong leaves (*Anredera cordifolia*) have great potential in treating various diseases, including accelerating wound healing, increasing endurance, and as a complementary therapy in the treatment of chronic diseases. The content of active compounds such as flavonoids, saponins, and alkaloids plays a role in its pharmacological effects, such as antioxidant, anti-inflammatory, and antibacterial properties. However, despite having many benefits, the use of binahong leaves must still be done with the right dose to avoid unwanted side effects, such as digestive disorders or allergic reactions (Yuliana, D. 2022).

Binahong leaves can be processed in various ways according to their intended use. For consumption, these leaves can be boiled and consumed as herbal tea, made into juice, or dried into powder and packaged in capsule form. Meanwhile, for external use, binahong leaves can be ground until smooth and applied directly to wounds to speed up the healing process. Proper and controlled use will help maximize the benefits of binahong leaves without causing excessive health risks. Therefore, it is important to understand the appropriate way to use it and consult a medical professional if you want to use binahong leaves as additional therapy in treating a disease. Traditionally, binahong leaves are often consumed in the form of boiled water or herbal tea which is believed to have various health benefits, such as increasing endurance, accelerating wound healing, and helping to overcome digestive problems. The method of making it is quite simple, namely by taking a few fresh binahong leaves, washing them thoroughly, then boiling them in two glasses of water until the water volume is reduced to one glass. After that, the boiled water is filtered and can be drunk one to two times a day, either warm or after being cooled (Rukmana, HR, & Yudirachaman, HH 2024).

In addition to being boiled, binahong leaves can also be consumed in the form of juice which is more practical and refreshing. The method is to blend fresh binahong leaves with water until smooth, then strain to separate the pulp. To make it taste better and not too bitter, binahong leaf juice can be mixed with honey or lemon juice. This method is a faster alternative in consuming binahong, especially for those who do not like the bitter taste of the boiled water. In addition to direct consumption, binahong leaves are also often used as an external medicine to treat wounds or inflammation of the skin. Fresh leaves are ground until smooth and then applied to wounds, boils, or irritated body parts to speed up the healing process. This method is believed to be effective because the flavonoid, saponin, and alkaloid content in binahong leaves has antibacterial, anti-inflammatory properties, and accelerates cell regeneration. With various flexible processing methods, binahong leaves are one of the herbal plants that are easy to use according to health needs. For external use, binahong leaves can be ground until smooth and applied directly to wounds or problematic skin areas,

then covered with a clean cloth so that the healing process is more optimal. In addition to being used traditionally, binahong leaves have also been developed in modern forms such as capsules or tablets of binahong extract, soap, cream, and ready-to-consume herbal drinks. In the context of cancer therapy, several studies have shown that flavonoids and saponins in binahong leaves have antiproliferative effects on cancer cells. Therefore, boiled binahong leaf water can be consumed as a complementary therapy with a reasonable dose and should be consulted with medical personnel before being used as part of the treatment. With various processing methods, binahong leaves can be used as a natural ingredient to improve health and help the healing process of various diseases.

Side Effects and Contraindications

Although binahong leaves (*Anredera cordifolia*) are known to have various health benefits, their use still needs to be considered because they can cause side effects, especially if consumed in excessive amounts. One of the side effects that is often reported is digestive disorders, such as nausea, diarrhea, and stomach ache. This is due to the high content of saponins, active compounds that have natural detergent properties and can irritate the digestive tract if consumed in high doses. In addition, saponins in binahong leaves can also affect the balance of digestive enzymes, which can potentially cause bloating and discomfort in the digestive system (N Nurchayati, et al. 2021). Therefore, although binahong leaves offer various benefits, they must be consumed in the right dosage. To avoid these side effects, it is recommended that the use of binahong leaves be started with a small dose first, so that the body can adapt. If a negative reaction or prolonged digestive disorders occur, it is best to stop consuming and consult a medical professional.

In addition, some people may experience allergic reactions to binahong leaves, which are characterized by skin rashes, itching, or even difficulty breathing. Binahong leaves are also known to have the effect of lowering blood pressure, so for individuals with low blood pressure (hypotension), consuming large amounts can cause dizziness, weakness, or even fainting. In addition, binahong leaves can interact with certain medications, such as blood thinners, hypertension medications, and diabetes medications, so that they can increase or decrease the effectiveness of the drug.

In addition to side effects, binahong leaves also have several contraindications. Pregnant and breastfeeding mothers are advised not to consume binahong leaves because there has not been enough research to confirm their safety, and there are concerns that the compounds in these leaves can trigger uterine contractions that can cause miscarriage or premature labor. People with kidney disease also need to be careful, because binahong leaves contain substances that can increase kidney function, which has the potential to worsen health conditions for those with impaired kidney function. In addition, because of its effect in lowering blood pressure, people with hypotension should avoid excessive consumption so as not to experience side effects such as dizziness or extreme fatigue. Therefore, although binahong leaves have various health

benefits, their use must remain within reasonable limits. If you want to use it as an alternative medicine, you should first consult a medical professional to ensure its safety.

CONCLUSION

Based on various studies that have been conducted, binahong leaves have great potential as a natural solution for various diseases. Its bioactive content, such as flavonoids, saponins, and alkaloids, provide significant health benefits, especially in terms of antioxidants, anti-inflammatory, and antibacterial. These compounds play an important role in warding off free radicals, reducing inflammation, and inhibiting the growth of bacteria that can cause infection. Various studies have shown that binahong leaves can help in wound healing, lower blood pressure, and have the potential to treat diabetes and cancer. Its use in traditional medicine has long been proven effective, both in the form of boiled water, juice, and as an external medicine to treat wounds and skin inflammation. Its effectiveness in the world of health is further strengthened by scientific research that supports these claims. However, although its benefits have been widely proven, further research is needed to ensure the effectiveness and safety of long-term use of binahong leaves. Further clinical trials are needed to provide a deeper understanding of the correct dosage and the possible side effects that can arise, especially if used in large amounts or over a long period of time.

With increasing public awareness of natural medicine, binahong leaves have the potential to become a promising alternative in the medical world. In addition, the development of binahong leaf-based products, such as herbal supplements, health teas, or creams based on binahong extract, can be an important step in increasing public access to more natural and safe health solutions. Innovation in the pharmaceutical and herbal health industries can also open up wider opportunities for binahong leaves to be developed as part of complementary therapies that can support conventional medicine. With a more scientific approach and more in-depth research, binahong leaves have great potential to become one of the leading herbal plants in the modern medical world.

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