



Ethnobotany of the Vile Shard Plant (*strobilanthes crispera* (L) blume) As a Cure for Diabetes in the People of the Nias Islands

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Abstract. The use of medicinal plants by the Indonesian people has been carried out for a long time from generation to generation to cure certain diseases, one of which is the people of the Nias Islands who use the vile shard leaves (*Strobilanthes crispera* (L.) (Blume) as a drug to reduce urinary complaints, kidney stones, gallstones and diabetes. Keji shard leaves are known to have high antioxidant compounds, namely flavonoids which can be used as medicinal compounds to treat diabetes, hypertension and inhibit the growth of pathogenic bacteria such as *Escherichia coli*, *Staphylococcus aureus* and *Streptococcus pyogenes*.

Keyword: Flavonoids, Vile Beling, Nias Islands, *Strobilanthes crispera* (L.) (Blume).

Abstrak. Pemanfaatan tanaman obat oleh masyarakat Indonesia sudah dilakukan sejak lama secara turun temurun untuk menyembuhkan penyakit tertentu, salah satunya masyarakat Kepulauan Nias yang menggunakan daun keji beling (*Strobilanthes crispera* (L.) (Blume) sebagai obat untuk mengurangi keluhan kencing, batu ginjal, batu empedu dan diabetes. Daun beling keji diketahui memiliki senyawa antioksidan yang tinggi yaitu flavonoid yang dapat digunakan sebagai bahan obat untuk mengatasi penyakit diabetes, hipertensi dan menghambat pertumbuhan bakteri patogen seperti *Escherichia coli*, *Staphylococcus aureus* dan *Streptococcus pyogenes*.

Kata Kunci: Flavonoid, Vile Beling, Nias Islands, *Strobilanthes crispera* (L.) (Blume).

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1 Introduction

Indonesia is a country that has the second largest biological wealth in the world after Brazil, where it is estimated that around 40,000 plant species on earth and 30,000 species can be found in the world. Indonesia. Among the many species, it is known that approximately 9,600 species of plants

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have medicinal properties and about 300 species have been used as ingredients in traditional medicine by the people of Indonesia. The use of plants as traditional medicine by the community is considered an effective, efficient, safe and economical way to fight disease, increase body resistance and repair damaged organs.

The tendency of the Indonesian people to return to use nature (*back to nature*) is one way that is taken as a habit of today's society in maintaining a healthy lifestyle. The use of medicinal plants in Indonesia as traditional medicine has been carried out for a long time based on beliefs by our ancestors and passed on to the next generation until now. The people of Indonesia, especially the Nias Islands, use wild flora and fauna very much as medicine and health food. This is based on community habits because most Nias people live in rural areas, while hospitals (puskesmas and medical centers) do not exist. In addition, the price of medicine is so expensive that it exceeds the ability of the village community because it is not affordable. The village community also still believes in the services of traditional medicine practitioners (shamans) who are closer and considered more touching to the patient's soul.

Medicinal plants are plants that either partially or wholly can be used as drugs that have properties against certain diseases and do not cause harm or side effects in their use [1]. Ethnobotany is a scientific discipline that discusses the use of plants and the interaction of social traditions, which in this case studies plants that are used by people in their daily lives such as cooking, hunting, farming and medicinal needs.

2 Discussion

Traditional medicine sourced from natural ingredients has long been used by the people of Indonesia. Herbal medicines are considered to be able to target the cause of certain diseases without causing side effects for users. The people of the Nias Islands use many herbal plants as traditional medicine, one of which is the vile shard plant (*Strobilanthes crispata* (L.) (Blume), where the community uses the leaves as medicinal ingredients to reduce complaints of urinary incontinence, kidney stones, gallstones, and diabetes. The efficacy of the leaves of the vile shard plant has also been scientifically proven through various studies.

Research conducted by [1] regarding the ethnobotany study of medicinal plants in the Riau Archipelago community, based on respondent data, the community also uses the vile shard leaves to treat stone disease [2] in their research on the formulation of keji shard leaf extract as a lotion, showed that the keji shard leaf extract has an antioxidant effectiveness value of 38.013 where antioxidants play a role in inhibiting oxidation and preventing free radicals. This is because the vile plant shard has metabolic compounds The secondary is flavonoids which act as antioxidants. An ethnobotanical study was also conducted by [3], where the Madurese community also uses this plant to treat urinary stones, where the vile shard leaves are boiled and the water is taken for consumption.

Keji shard leaf extract was also proven to be able to reduce cholesterol levels in male white rats with a decrease of 25.7 mg/dL from hypercholesterolemia 179.7 mg/dL to 154 mg/dL due to the flavonoid content in the Keji shard leaf extract which was able to reduce cholesterol in the blood, increasing the number of LDL receptors on liver cell membranes so that cholesterol levels fall through HMG CoA reductase inhibitors [4]. The ethnobotanical study by [5], where the people of Sinjai Regency use the vile shard leaves for hypertension. The method of processing is boiled together with avocado leaves and then drunk. Other studies were also reported on the use of keji shard leaf extract in inhibiting pathogenic microbes. Research conducted by [6], showed that keji shard leaf extract was effective in inhibiting the growth of *Staphylococcus aureus* and *Escherichia coli* bacteria *in vitro* with moderate strength (5-10 mm). Inhibition of the growth of *Streptococcus pyogenes* which causes strep throat infection was also shown in the research of [7] with an average diameter of 1.6 mm.

Public knowledge about medicinal plants can not be separated from the habits that have been passed down from generation to generation. People believe that a plant can cure disease because it is compatible with a person's body, but basically a plant can cause certain clinical effects due to certain compounds possessed by each plant so that it can play a role in human health. Therefore, further scientific studies are needed to prove whether the medicinal plants used are the right source of drugs for the disease that is the target to be cured.

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