



# Traditional Methodology Used for Free Kidney Stone Removal by Naturally Available Medicinal Plant *Bryophyllum pinnata* (Lam.) Pers

Sundar S Mety<sup>1</sup>, Channabasava A<sup>1</sup> and Abhyakumar Kamble<sup>2\*</sup>

<sup>1</sup>Gavisiddeshwara Arts, Science and Commerce Degree College, Koppal District, Karnataka, India

<sup>2</sup>Department of Biochemistry, Gulbarga University, Kalaburagi, Karnataka, India

## Abstract

The purpose of this research was to look into the traditional approach of preventing and treating kidney stones. According to existing research, kidney stones affect 12% of the global population between the ages of 20 and 30, and men are more likely than women to develop them. However, the most concerning development in recent years is that young children as young as 5 years old are developing kidney stones. As a result, crystals begin to form stones in our kidneys, and these crystals gradually attract additional wastes and chemicals, resulting in a solid known as a kidney stone. A kidney stone might be the size of a grain of sand or the size of a golf ball. Despite contemporary medicine's advancements, the genesis and proliferation of kidney stones continues to be a source of concern for mankind, as information and expertise about kidney stone treatment is lacking. If a person has a kidney stone problem, he or she needs pay a minimum of Rs. If the individual starts using the chemical medicine, which also causes numerous side effects, and he has to take other tablets to control these side effects, there is a miracle ethnomedicinal natural plant accessible to get rid of this condition without any adverse effects. *Bryophyllum pinnata* is a perennial herb that is commonly used in folk medicine and Ayurveda to treat a variety of ailments, including the breaking and removal of kidney stones.

**Keywords:** Traditional medicine; Kidney stone; *Bryophyllum pinnata*; NIDDK

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### \*Correspondence:

Abhyakumar Kamble, Department of Biochemistry, Gulbarga University, Kalaburagi, Karnataka, India, E-mail: abhay.gene@gmail.com

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## Introduction

An aberrant rise in urine calcium, oxalate, and uric acid, which lowers urinary citrate levels, is thought to be the origin of stone formation. Citrate and magnesium, which primarily operate as inhibitors for stone formation in the urinary system and kidney, are essential for proper kidney function. If this function is impaired, a lack of citrate and magnesium inhibitors in the urine might result in stone formation. Human beings are dealing with a variety of important health difficulties such as chronic diseases such as heart attack, cancer, Alzheimer's disease, and so on. In addition, they are dealing with and suffering from the formation of stones in the kidney, bladder, urinary system, and so on. The interplay of epidemiological, biochemical, and genetically risk factors causes this complex illness. This affects both men and women, but it is more common in males than in women, and it is more common in young women. However, the most concerning scenario these days is that young children as young as 5 years old are developing kidney stones. According to some studies, calcium oxalate and calcium phosphate are the primary causes of up to 80% of renal stones, 10% of struvite comprises magnesium ammonium phosphate, 9% uric acid, 1% cystine, or ammonium acid urate due to drug-related stones [1]. Kidney stones are most common in people between the ages of 20 and 30, according to research [1-3]. Different factors contribute to an increased risk of acquiring and forming kidney stones. According to the findings, Asians have higher kidney stone difficulties than Africans and Americans. Aside from that, sex has a role in chronic kidney disease, with more males than women developing kidney stones. The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) claims that (NIDDK). Because of a family history of kidney stones, focusing on a history of kidney stone production can raise our risk. Other risk factors include dehydration, previous kidney stones, inflammatory bowel diseases that increase calcium absorption, diuretics (water pills), ancestors in your family, obesity, high protein, sodium, or sugar in the diet, not drinking enough water, salt, glucose, or diet, hyperparathyroidism, high levels of cystine, oxalate, uric acid, or calcium, gastric bypass surgery, anti-seizure drugs, and calcium-based

antacids, and (American Kidney fund, fighting on all front 2021) [4]. What are the signs and symptoms of kidney stone formation? If you have a small kidney stone, it may pass during the urination process. If you have a larger kidney stone, you may experience pain during the urination process, blood in the urine, sudden and uncontrollable pain in the back or lower abdomen, nausea and vomiting, swelling in the hands or feet, puffy face, ammonia breath, food that tastes like metal, upset stomach, uncertain urination, foamy or bubbly urine, brown, red, or purple urine, and while the person's kidney stone should be treated based on these prominent signs. (<https://lifeoptions.org/learn-about-kidney-disease/kidney-disease-symptoms>) The American Kidney Fund is battling on all fronts until 2021. Surgical techniques, lithotripsy, and local calculus destruction with a high-powered laser for eliminating the calculi or kidney stone are the most frequent methods for quick and easy treatment of kidney stones. If a person uses these procedures, they must be cautious because the probability of recurrence of calculi or kidney stones is almost 10% after one year, increases to around 33% after five years, and increases to more than 50% after ten years [5]. Even if there is no clinical evidence for their usefulness since they lacked the control or prevention, they are taking care or control with the use of various drugs.

The above literature and information or knowledge with kidney stone formation and treatment are very difficult to cure completely by various methods reveals that there is an urgent need to get the best and 100 percent curable without reoccurrence. We have a strong chance that the naturally available herbal source is the best and has no negative effects in this regard. God has been given a gift in the form of herbal treatments through nature. The herbal plant *Bryophyllum pinnata*, which has the ability to naturally remove kidney stones, is commonly used as traditional medicines in India, America, China, Australia, and Africa to treat diseases such as rheumatism, body pain, arthritis, heartburn, skin ulcers, peptic ulcer, diabetes mellitus, microbial infection, and hypertension, among others [6,7]. *Bryophyllum pinnatum* (Lam) Pers. is a miraculous plant that belongs to the Crassulaceae family. Gandukalinga or Parnabeeja is the Kannada name for the plant, which is also known in Hindi as Zakhme-hayat, Telugu as Sima jamudu, Sanskrit Asthibhaksha, Marathi Pamphuti, Tamil Malaikalli, Malayalam Elamarunga, Odisha as Amarapoi, and English as sprout leaf plant. *Bryophyllum* is a Greek word that meaning "sprout" and "phylum," which refers to the plant that arises from the leaf. The air plant, cathedral bells, life plant, miracle leaf, and Goethe plant are all names for this Madagascar native. The herb is a succulent plant with mushy leaves and stems that grows up to 39 inches tall. Pinnata is the feminine form of the Latin word pinna, which means "winged pinnate" [8]. Wounds, sores, scabies, insect bites, indigestion, abdominal discomfort, boils, bruises, cuts, diarrhea, dysentery, headaches, anti-inflammatory, antibacterial, pimples, inflammation, eczema, coughs, earache, menstrual disorders, fevers, chickenpox, broken bones, and more are all treated with this medicinal herb. The current research is mostly concerned with the removal of kidney stones or the prevention of stone development in the kidney or urinary tract. The Ayurvedic medical system permits the use of a variety of herbal plants as medicines and formulations to treat urinary stones in kidney disease [9].

## Methodology

We noticed a patient who lives behind my house and is in excruciating discomfort due to a kidney stone. They went to many clinics to obtain treatment from doctors, and they were eventually

advised to use the surgical approach. One fine day, the patient returns home and requests assistance with the cost of surgery. My grandmother recommended putting 2 to 3 miracle leaves of *Bryophyllum pinnata* in our small garden every day (Figure 1). One patient's stone size is 12 mm, while another's is 20 mm. Both of them began taking 2 to 3 leaves daily without fail for around a month to 2 to 3 months.

## Results and Discussion

The most common and ancient disorders in the urinary system, such as nephrolithiasis and renal calculus, are the main health concerns with kidney stones. This sickness can affect anyone at any age, including youngsters who are experiencing the same difficulty with a kidney stone. As we all know, sex plays a significant part in this disease, which means that men have a higher risk of developing kidney stones than women. According to numerous research investigation reports, there is no treatment or pharmaceutical available in the medical profession for the removal of kidney stones. Patients with kidney stones smaller than 16 mm of leaf juice, according to Aditya et al. [2] have the ability to extract the stone from the kidney. Similarly, Mamoori 2019 [10] stated that various medical techniques to medicinal plants are extremely efficient in removing kidney stones. This has been one of the primary restrictions in human health for decades, and it poses a significant therapeutic threat due to a lack of effective therapy and higher recurrence rates. Mahendra et al. [9] tested numerous extracts in 2016 and concluded that the *Bryophyllum pinnata* leaves' effectiveness in the treatment of kidney stones is confirmed. The findings of the current investigation also suggested and confirmed that the patients' stones of 12 mm



Image 1: Grandmother with me given information about the plant.



Figure 1: Shows the availability of the *Bryophyllum pinnata* given to the patient.

and 20 mm were removed. For roughly 2 to 3 months, consuming 2 to 3 leaves everyday early in the morning with an empty stomach can break and remove kidney stones from the patient's body. Our findings backed with previous studies by ALMF, ALSA, and Aburjai, who revealed in 2019 that medicinal herbs can help prevent and control nephrolithiasis [10]. *Bryophyllum pinnata* is also capable of dissolving calcium oxalate, which is the most frequent stone encountered in the kidneys and urinary tract [11]. Another storey, published in the Indian Express Daily newspaper on April 18<sup>th</sup>, 2019 [12], backs up our findings in Tamil Nadu about the medical qualities of this plant, stating that Ganesh Babu utilized the plant to remove a kidney stone from a patient's body.

## Conclusion

The entire information and knowledge of the Ayurvedic medicinal plant *Bryophyllum pinnata* in the field of treatment to heal or remove kidney stones revealed that the miracle plant has the medicinal capacity to cure or remove kidney stones, as well as to avoid or create stones. Finally, in this study, we followed the patient from the beginning of their pain until the end of their treatment and relief from the pain. The plant may include a variety of biochemical elements or chemical compounds that aid in the dissolution of kidney stones. The current study does not complete the examination; more research is needed to fully understand *Bryophyllum pinnata's* information.

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