

Different Medicinal Plants of Bangladesh and Their Medicinal Uses: A Review Study

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Abstract

From very beginning, plants are used to treat different kinds of diseases. The prevalence of various diseases is increased from recent years; therefore, various researches are going on to discover better medicine to treat those diseases. This study has focused on five plants which are traditionally used in Bangladesh for the treatment of various diseases like inflammation, skin diseases, small pox, anti-diarrhoeal, anti-diabetic, CNS depressant, uterine bleeding, menstrual bleeding, bleeding of haemorrhoids, gastrointestinal bleeding, rheumatic pain, diuretic, for bladder and kidney disease, snake bite, headache, insomnia etc. The studied five plants are *Enhydra fluctuans* Lour (Family: Asteraceae), *Persicaria hydropiper* L. Delabre (Family: polygonaceae), *Jasminum sambac* L. Aiton (Family: Oleaceae), *Terminalia catappa* L. (Family: Combretaceae), *Avicennia officinalis* L. (Family: Avicenniaceae). The pharmacological activities of these plants has been explored through literature search. Traditional medicine is more acceptable in the world and also Bangladesh because of their availability and reasonable prices. Traditional medicines are more popular in the developing countries including Bangladesh where 60 to 80 percent people depends on these medicines.

Keywords: Activity, Bangladesh, medicinal plants, uses

INTRODUCTION

Traditional system of health care is an art of healing, which is based on traditional uses of plants, animals or their products and other natural substances, religious verses, cultural practices and physical manipulations, including torture. As this system of medicine has been used almost unchanged continuously generation after generation throughout the ages for the treatment of various physical and psychological diseases the system is called traditional [1]. The World Health Organization (WHO) has thus defined traditional medicine as “the sum total of all knowledge and practice, whether explicable or not, used in the diagnosis, prevention and deduction of our different imbalance [2]. Plants have contributed and are still contributing to the development of modern

synthetic drugs and medicines in a number of ways as stated below. Novel structures of biologically active chemical compounds, isolated from plant sources, often prompt the chemist to synthesize similar or better semisynthetic compounds [3]. Synthetic drugs with similar or more potent therapeutic activity are often prepared by structural modification of the plant [4]. Being naturally gifted by a suitable tropical climate and fertile soil, Bangladesh possesses a rich flora of tropical plants. About 5000 species of phanerogams and pteridophytes grow in its forests, jungles, wastelands and road sides as indigenous, naturalized and cultivated plants. Out of them more than a thousand have been claimed to possess medicinal and/or poisonous properties, of which 546 have recently been enumerated with their

medicinal properties and therapeutic uses [5]. In addition to possessing various medicinal properties, 257 of this medicinal plants have been identified as efficacious remedies for diarrhoeal diseases and 47 for diabetes. Medicinal plants and plant derived drugs play a very important role in the economy of tropical countries. Bangladesh, being one of them and possessing such a rich flora of medicinal plants, should make serious efforts to derive maximum economic benefit from these plants by using them as raw materials for its indigenous drug manufacturing industries [6]. The World Health Organization formulated a policy on traditional medicine in 1991, and since then has published guidelines for them, with a series of monographs on widely used herbal medicines [7]. Medicinal plants may provide three main kinds of benefit: health benefits to the people who consume them as medicines; financial benefits to people who harvest, process, and distribute them for sale; and society wide benefits, such as job opportunities, taxation income, and a healthier labour force [8]. However, development of plants or extracts having potential medicinal uses is blunted by weak scientific evidence, poor practices in the process of drug development, and insufficient financing [9]. Malvaceae are distributed widely in tropical and temperate regions. 22 genera and about 125 species of Malvaceae have so far been reported from India. Some of the larger genera, along with their common names/or number of reported species in

parenthesis, include *Hibiscus* (rose mallow, 300), *Sida* (200), *Pavonia* (200), *Abutilon* (Indian mallow, 100), *Alcea* (60), *Malva* (Mallow, 40), *Lavatera* (25), *Gossypium* (Cotton, 20), and *Althaea* (12). A number of species are pests in agriculture, including *Abutilon theophrasti* and *Madiola caroliniana*, and others that are garden escapes. Cotton (four species of *Gossypium*), kenaf (*Hibiscus cannabinus*), cacao, kola nut, and okra (*Abelmoschus esculentus*) are important agricultural crops. The fruit and leaves of baobabs are edible, as is the fruit of the durian. The family is recognized by *Hibiscus ro-sa-sinensis* (rose of China) because of its beautiful large flowers and hundreds of its known cultivated varieties. Cotton (*Gossypium*), the most important plant of this family from the commercial viewpoint, has been cultivated in India since last 5000 years [10].

MATERIALS AND METHODS

The present study is based on the intensive field of the area during the period of April 2018 to March 2019. The data was collected from online journals, research papers, and books, all of which were published in different search engine websites such as Google, Google Scholar, Pub Med, Science Direct, Research gate and other online collections were utilized in this review to obtain information.

RESULTS AND DISCUSSION

A list of five traditionally used medicinal plants in Bangladesh.

Table 1: Medicinal Plants

Local name	Scientific name	Uses
Hingcha Sag	<i>Enhydra fluctuans</i>	Nervous diseases, antioxidants, anti-diarrhoeal, analgesic and skin diseases.
Bish-katali	<i>Persicaria hydropiper</i>	Contraceptive, haemostatic, diarrhoea, dyspepsia, jaundice, heart stroke, cancer
Bel/Beli	<i>Jasminum sambac</i>	Insomnia, headaches, pain, snake bites, gallstones, skin diseases, ulcers healing and fever.
Desi badam	<i>Terminilia catappa</i>	Anti-carcinogenic, anti-HIV, Hepato protective, anti-diabetic.
Bean/Dhola bean	<i>Avicennia officinalis</i>	Small pox, skin affections, boils, tumors, snake bites.

***Enhydra fluctuans* Lour**

Family: Asteraceae

Bengali Name: Hingcha Sag.

English Name: Water cress and Marsh herb

It is an edible semiaquatic herbaceous vegetable plant with serrate leaves, grows all over in Bangladesh.

Medicinal Uses: The leaves are also antibilious and are also used in nervous diseases, antioxidants, anti-diarrhoeal and

analgesic activities. The leaves of *Enhydra fluctuans* have been reported to have hypotensive activity. Plants, plant parts, plants seeds, roots, berries leaves, bark, flowers and plant products are used in medicinal purposes. Many people believe that plants and plant products are safer and less toxic than manufactured drugs. For these reasons we were investigate the CNS depressant activities of *Enhydra fluctuans* Lour.



Figure 1: *Enhydra fluctuans* Lour.

Persicaria hydropiper

Persicaria hydropiper L. is an erect herb that can grow up to 30–50 cm tall. Leaves are oblong-lanceolate, short petioled, tapering to a pointed end, ciliate on the under surface. Flowers are white, in sparse, thin and with hanging false ears. Fruit is black, nut-like and has a flat and domed side.

Bengali Name: Bish-katali

English Name: Water-pepper, Marsh-pepper smartweed, Red leaf, Smartweed

Plant Parts Used

Leaves, Fruits, Flower, seeds, Roots

Medicinal Uses

The liquid extract of the plant is used as a

contraceptive and a haemostatic. The plant is also used alone or with other herbs decocted for diarrhoea, dyspepsia, dysentery, enteritis, diuretic, expelling worms, heat stroke, itching skin, haemorrhage, jaundice and cancer. In folk medicine, it is used internally for uterine bleeding, menstrual bleeding, bleeding of haemorrhoids, gastrointestinal bleeding, rheumatic pain, as a diuretic, for bladder and kidney disease, and gout. It is used externally for poorly healing wounds, sprains and contusions. The leaves are pounded and applied to skin diseases, for uterine disorders, while its seeds are used as carminative, diuretic and stimulant.



Figure 2: *Persicaria hydropiper*.

Jasmenium Sambac

Jasminum sambac Linn. Family-Oleaceae

Bengali Name: Bel/Beli

English Name: Arabian jasmine, Tuscan jasmine, Sambac jasmine

This plant is also known as Motia or Lily by locally. It is cultivated nearly throughout the tropical and sub-tropical parts of the world.

Medicinal Uses

The plant is considered cool and sweet used as a remedy in case of insanity, in weakness of sight and affections of the mouth. The flower of this plant is used for itching sensation, allays fever, stop vomiting, skin diseases, leprosy and ulcers. Traditionally leaves are used in fever, cough, indolent ulcer, abdominal distention, diarrhoea, lowering the blood glucose level, regulating menstrual flow,

to clean kidney waste, inflamed and blood shot eyes. Root, flowers, leaves are galactogogues therefore act as lactifuge^{2, 3}. The plant is reported to have to have antidiabetic, antitumor, antimicrobial, antioxidant, anti-acne, suppression of puerperal lactation, A.N.S stimulating effect. The roots are used to treat wounds and snake bites, emmenagogue, headaches, insomnia, and pain due to dislocated joints and broken bones; it is reported to have anesthetic properties. Several jasminum species have been used in cancers.

Terminalia catappa L.

Family: Combretaceae

Common Names: Desi Badam, Bengal almond,

Bengali Name: Bengal almond, Country almond, Falsekamani, Indian almond.



Figure 4: *Terminalia catappa L.*

Medicinal Uses

The leaves of this plant is used as anticarcinogenic, anti – HIV and hepatoprotective properties. The leaves and bark have been also used traditionally in the South Pacific, for fungal related conditions. It may be potentially beneficial for overall immune support, liver detoxification and antioxidant support. The leaves contain agents for chemo-

prevention of cancer and probably have anticarcinogenic potential.

Avicennia officinalis L

Common Name: Baen, Dhola baen (Bengali), Bina (Hindi)

Botanical Name: *Avicennia officinalis* (Linn.)

Family: Avicenniaceae **Used Part:** Leaves



Figure 5: *Avicennia officinalis*.

Avicennia officinalis is a species of mangrove. It is an evergreen tree.

Traditional Medicinal Use

The fruits are plastered onto tumors. This mangrove plant is a folk remedy for boils and tumors. The roots are aphrodisiac. Unripe seeds are poultice onto abscesses, boils, and smallpox sores. The bark is used for skin afflictions, especially scabies. The bark of this plant acts as a contraceptive also. Philippines use the seed for ulcers, the resin for snakebite.

CONCLUSION

This study has focused on five plants which are traditionally used in Bangladesh for the treatment of various diseases like inflammation, skin diseases, small pox, anti-diarrhoeal, anti-diabetic, CNS depressant, uterine bleeding, menstrual bleeding, bleeding of haemorrhoids, gastrointestinal bleeding, rheumatic pain, diuretic, for bladder and kidney disease, snake bite, headache, insomnia etc. The drug in the medicine is the active therapeutic agent that cures

the disease or heals the wound or injury. Plants that possess therapeutic properties or exert beneficial pharmacological effects on the animal body are generally designated as Medicinal plants. So, when a plant is called as a medicinal, it must be satisfied useful as a drug or any other therapeutic agent. According to World Health Organization (WHO) the definition of medicinal plants has formulated as- “A medicinal plant is any plant which, in one or more of its organs, contains compositions which can be used as therapeutic motive”. Traditional system of health care is an art of healing, which is based on traditional uses of plants, animals or their products and other natural substances, religious verses, cultural practices and physical manipulations, including torture. As this system of medicine has been used almost unchanged continuously generation after generation throughout the ages for the treatment of various physical and

psychological diseases the system is called traditional.

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