

MEDICAL ETHNOBOTANY IN THE SHIVALIK RANGE OF THE HIMALAYAS

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ABSTRACT—This study represents the ethnomedicinal findings of some of the most commonly used plant species by the inhabitants of the remote Shivalik Range of the Himalayas. This treasure trove of medicinal wealth has provided health and relief from disease for centuries to millions of area people. Furthermore, in addition to their cultural connotation, some of these plant species have contributed to several systems of medicine, including allopathy.

Ethnomedicinal folklore in the Himalayas has richly contributed not only to the indigenous systems of medicine but also to modern medicine. Globally, the estimated number of plant species used in curing different types of ailments is about 70,000. The indigenous systems of medicine in South Asia utilize more than 3,000 species of medicinal plants. The Himalayan arc, extending from Afghanistan to Burma, a distance of 2,500 kilometers, is the major source of these plant species. The harsh environment and mountainous terrain of the region have deterred thorough botanical exploration in these mountains. Notwithstanding this inhospitable topography, some ethnomedicinal studies (Hemsley and Pearson, 1902; Steward, 1916; Abrol and Chopra, 1962; Sharma, 1977, 1989, 1993, 2000; Bhattacharyya, 1991; Sharma and Sharma, 2002) provide valuable data regarding the medicinal wealth of these mountains. This study is an attempt to further document the medicinal flora and the associated folklore in the remote Shivalik Range of the Himalayas.

MATERIALS AND METHODS

The area under investigation was botanized thrice between 2001 and 2004. Ethnomedicinal data were collected on fresh as well as dried plant species from the area medicine men and women, clergy, farmers, village folks, and religious shrines where the residents have a long tradition of practicing medicine. Daily evening discussions were held concerning ethnomedicinal traditions and cultural connotations associated with medicinal plants of the area. Taxonomic confirmation was made at the regional institutional facilities and the herbarium specimens were prepared and deposited at the herbarium facilities at the University of Tennessee at Martin, Martin, Tennessee. The study area, situated near the Indo-China border, in the Shivalik Range in the Himalayas lies at 30°12' to 31°34' N longitudes and 76°31' to 77°06' E latitudes at an elevation ranging from 2,000 to 3,000 m.

RESULTS

Medicinal plant species used by the inhabitants of the study area in the Shivalik Range of the Himalayas are listed alphabetically by family, species, local name (in quotation marks), and medicinal use.

Apiaceae

Centella asiatica Urban. "brahmi"—Powder of dried leaves is taken with goat's milk in epilepsy and to improve memory. A paste made from the leaves is applied externally in leprosy. Leaf powder is prescribed for ulcers.

Cuminum cyminum L. "zeera"—A mixture of seeds, black salt and lemon juice is administered orally as an appetizer and to treat stomach disorders.

Ptychotis ajowan Benth. "ajwain"—A tea made with seeds and leaves is used for stomach discomforts. Seeds are chewed for colic and digestive complaints. Seeds are soaked in water and the filtered extract is used as mouth freshener.

Araceae

Acorus calamus L. "bach"—Oil from crushed rhizome is used for its sedative and blood pressure lowering properties. It also is used for asthma and epilepsy. Dried rhizome is chewed for sore throat and cough. External application of the rhizome is prescribed for rheumatism. Dried rhizome powder is used as an insecticide.

Combretaceae

Terminalia chebula Retz. "harad"—A powder made from the fruit is used as a laxative. Soaked in water, it is used as a tonic and an aphrodisiac. Fruit pulp is rubbed over ulcerated and bleeding gums. Powdered fruit is smoked for asthma relief. Fruits are steeped in water overnight and the water is used as a cool wash to strengthen sight and remove sty of the eyelid.

Cucurbitaceae

Momordica dioica Roxb. "karela"—The fruit is cooked in a small amount of oil and consumed for treating diabetes. Fresh fruit juice is prescribed for hypertension and for maintaining proper blood sugar. Seeds are roasted and taken for eczema and other skin problems. Tender fruits are rubbed on skin for pimples and acne.

Cyperaceae

Cyperus rotundus L. "motha"—Roots and ginger are made into a powder and mixed with honey and given to treat dysentery and intestinal problems. Tuber powder is used in weight reduction.

Soap made from the tuber is given in cases of fever. Paste from the tuber is applied externally to treat scorpion stings.

Ephedraceae

Ephedra vulgaris Rich. "chhedang"—Young, tender twigs are boiled in water. The filtered extract is taken to treat asthma and bronchitis. It also is used as a cardiac stimulant.

Euphorbeaceae

Emblica officinalis L. "amla"—Ripe fruit is boiled in water, added to sugar syrup, and taken with milk as a tonic and for cardiac strength. Candy made from fruit is used for general health maintenance. It is considered to be an extremely rich source of vitamin C.

Fabaceae

Pseudarthritis viscida Vascida. "saliparni"—Leaves are boiled in water and the extract is administered internally for asthma, rheumatism, and body pains.

Labiatae

Ocimum sanctum L. "tulsi"—The leaves and tender twigs are boiled in water with a few black pepper corns, cloves, and fresh ginger till the mixture becomes brownish. A small amount of honey and lemon juice is added to the filtrate. This mixture is taken for colds. Black tea made with a few leaves is recommended for building immunity from cough and cold and for cardiac strength.

Lauraceae

Machilus macrantha Nees. "kukur"—Bark is ground into fine powder. A decoction is made with honey and is taken to treat asthma and rheumatism.

Liliaceae

Aloe barbadensis Lam. "kumari"—The juice from the succulent leaves is boiled on a low heat to derive a concentrated jell which is applied over wounds to promote granulation. It also is taken internally as a laxative. Fresh juice of the leaves is applied over eyelids as a cooling agent. Fresh leaves are placed over wounds for quick healing.

Asparagus racemosus Willd. "shatawar"—Boiled leaves are placed over boils to prevent infection. Flowers are cooked in cow's milk and mixed with honey and administered internally for their aphrodisiac properties. This preparation also is prescribed for lactating mothers for increasing the secretion of milk. A paste of leaves cooked in clarified butter is used as a tonic. The dried leaves are kept in homes and under beds for their antiseptic and pesticide properties.

Leguminosae

Butea frondosa Roxb. "pelas"—The resin from the bark makes an excellent astringent. In small doses it is prescribed for diarrhea and dysentery. Dried seeds are powdered and made into a paste and applied externally for ringworms. A poultice made after boiling leaves in water is used for skin problems. Inner bark is chewed to quench thirst. Powdered bark is mixed with ginger and administered in cases of snakebite.

Macuna prurita Hook. "kaunch"—A root decoction is consumed to treat diseases of the nervous system, kidney infections, and stomach disorders. The root powder mixed with honey is administered to cholera patients. Roasted seeds are used as an aphrodisiac. A paste made from seeds is applied in cases of scorpion bite. Leaves are boiled in water and the filtered decoction is sweetened with honey to be given to patients suffering from liver and gall bladder problems.

Pterocarpus santalinus L. "sanders"—It is a medicinal plant with varied applications. The wood is rubbed on a piece of stone with water and applied externally for treating inflammation and skin problems. Powdered wood mixed with milk is taken internally to treat hemorrhoids. The fruit is consumed as an astringent and a tonic.

Saraca indica L. "ashoka"—Powdered bark is boiled in milk and the decoction is given with honey to treat urinary problems. It also is prescribed in cases of bleeding hemorrhoids and dysentery.

Trigonelia foenum L. "methi"—Seeds are soaked in water overnight and the mixture is administered internally for lowering blood cholesterol, blood pressure, and blood sugar. Leaves are cooked as a vegetable and prescribed for the same benefits.

Meliaceae

Melia azadirachta L. "neem"—Poultice made from the leaves is applied externally on boils as an antiseptic. A curry made from leaves is used for intestinal worms, colic, and digestive complaints. Oil from the seeds is used as an insecticide. Powdered bark mixed with crushed ginger root is given in cases of malarial fevers. It is a plant used for its anti-viral, anti-fungal, and antiseptic properties.

Moringaceae

Moringa oleifera Lam. "mauru"—Oil from the seeds is applied externally for rheumatism and body pains. Unripe seedpods are used to make a curry to be given to patients with liver and spleen disorders. Leaves are chopped and applied over eyelids in cases of sty and eye diseases. Root and root bark are boiled in water and the filtrate is prescribed as a diuretic.

Myricaceae

Myrica esculenta Thunb. "kaiphal"—A decoction of the bark mixed with honey is taken to relieve asthma and bronchitis. A powder made from the bark and ground ginger is administered to patients with sore throat and cough. Fruits are prescribed for their sedative effect.

Myrtaceae

Eugenia jambolana Lam. "jamun"—Fruit and fruit juice are consumed for lowering blood sugar. Dried and powdered seeds are consumed with milk as an appetizer and for treating digestive problems.

Orchidaceae

Paphiopedilum druryi Rolfe. "buga"—Flowers are boiled in milk and the mixture is taken with honey as an aphrodisiac.

Plantaginaceae

Plantago ovata Forsk. "isabgol"—Seed husk is taken with warm water as a laxative. It also is used with lemon juice in case

of diarrhea. Seed husk is mixed with wheat chaff and a little oil to make a paste to be administered for relieving bloating and constipation.

Plumbaginaceae

Plumbago zeylanica L. "chitrak"—Dried root powder is taken with warm water in diarrhea, piles, and skin diseases. It also is used with goat's milk to treat rheumatism. A paste made from the root is taken with yogurt in cases of piles.

Ranunculaceae

Aconitum heterophyllum Wall. "ativisha"—Powdered tubers are mixed with honey and given to treat cough and fever. It also is effective in treating throat infections and hysteria. Tubers are boiled in water and the filtered extract is sweetened with honey to be given in cases of diarrhea and respiratory complaints.

Rutaceae

Aegle marmelos Corr. "bael"—Poultice made of the leaves is used to treat ulcers. Leaf juice is used in case of nose or throat inflammation. It is used in cholera and diarrhea. The fruit is used as a tonic. It also is used in dysentery and as a digestive. The unripe fruit is taken to expel intestinal parasites.

Glycosmis pentaphylla Correa. "asvakathara"—Powdered root is boiled in water and allowed to cool. The filtrate is taken internally as a cooling agent and recommended as a sedative in case of snakebite.

Sapotaceae

Bassia latifolia Roxb. "mahua"—Fresh juice of the flowers is used as a tonic. Fermented flowers yield an alcoholic beverage that is taken as an appetizer. Seeds yield an oil that is used for eczema and skin rash. In small quantities, the oil is used as a laxative. Leaves are boiled in water and placed over burns and wounds for their antiseptic and healing properties. Powdered bark is rubbed over the body for relieving rheumatism and body pains. A tea made with flowers is used to relieve cough and bronchitis.

Scrophulariaceae

Picrohiza kurroa Benth. "kutki"—Rhizome powder is taken with water in dropsy and as a laxative. A mixture of rhizome powder with honey is used in cases of hiccups and fevers. It also is used to treat stomach disorders.

Urticaceae

Ficus begalensis L. "banyan"—Milky juice from the bark is used as an astringent and diuretic. Raw seeds are eaten as tonic. Milky juice from the bark is applied over affected parts of the body for rheumatism and inflammation. It also is taken internally to treat hemorrhoids. Leaves are boiled in water and then applied over wounds to promote the discharge of pus. Powdered root mixed with honey is taken internally in gonorrhoea.

Ficus religiosa L. "peepal"—Bark is boiled in water and the filtrate is taken with goat's milk and honey for the treatment of leprosy, eczema, and other skin problems. A preparation of dried bark and goat's milk is used as an aphrodisiac. Seeds

are soaked in water and taken as a laxative. The fruit is used as a digestive and laxative.

Valerianaceae

Nardostachys grandiflora DC. "butakesi"—A tea made from the rhizome is prescribed for epilepsy. It also is used as a diuretic. Washed and powdered rhizome is mixed with honey and prescribed for stomach disorders.

Zingiberaceae

Curcuma longa L. "haldi"—Powdered rhizome is boiled in water or cow's milk and the mixture is administered internally for treating wounds, burns, and infections. It also is given in cases of constipation and stomach disorders.

DISCUSSION

The Shivalik Range of the Himalayas represents a unique site for ethnomedicinal studies in view of its remoteness and richness of medicinal flora associated with the cultural heritage of the inhabitants. The local human populations are privy to this vast reservoir of medicinal wealth. Furthermore, this medicinal reservoir has repeatedly contributed drugs such as ephedrine and aconitine to modern medicine in the last century. The centuries-old practices of medicine represent a mosaic of ancient wisdom and should not be dismissed as witchcraft. Recent interest around the world in complementary medicine and especially in herbal medicine would suggest delving into the flora of this remote area for potential therapeutic drugs for modern medicine.

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