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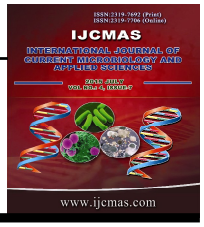

Original Research Article

Folk Medicinal Uses of Plants from Kusmi Forest, Uttar Pradesh, Gorakhpur, India

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Plants, ethnomedicinal, Folks, Floristic, Traditional, Angiosperms, Gorakhpur

A B S T R A C T

Plants are very much significant for the survival of human being as they are the source of food, timber and fuel however they have also been used ethnomedicinally as curative tools in the Indian System of Medicine. Allusion to plants used as drugs are frequently found in old literatures viz; Atharveda, Charak Samhita and Sushruta Samhita etc. In spite of achievements of allopathic medicines the Indian Systems of Medicine still continue to provide medical cure to majority of the people on the account of their cheaper cost and no side effects. A floristic exploration of ethnomedicinal angiospermic plants occurring in and around Kusmi forest of Gorakhpur division was conducted. This exploration was aimed to assess the potentiality of plant resources used for traditional treatment by the local people of Kusmi forest area. The information on medicinal uses of plants is based on the exhaustive interviews with local physicians practicing indigenous system of medicine, village headmen and tribal folks. About 52 plant species belonging to 31 families and 51 genera were recorded and a list of plant species along with their part/s used and their effective control in different ailments was prepared.

Introduction

Plants are one of the most important sources of medicines. The relevance of plants as medicines dates back to prehistoric period. The medicinal plants are extensively utilized throughout the world basically by two means of health care system management which are traditional and modern. The World Health Organization (WHO) reported that as many as 80% of the world population depend upon traditional medicines for their primary health care (Singh *et al.*, 2010; Dubey, 2004).

The traditional systems of medicine are still very effective predominantly in rural areas for the treatment of various ailments (Singh and Singh, 2009). Being rich in plant biodiversity and with its magnificent past of traditional health care system and use of plants India is one of the eight major centers of origin (Siva, 2007). The various climatic conditions in India also enrich variety in biodiversity of medicinal plants (Dubey, 2004). Several contributions have been made by Maheshwari *et al.* (1980), Pandey

and Verma (2002), Nigam and Kumar (2005) and Prasant *et al.* (2010) to the knowledge of medicinal plants including medicinal values of weeds. Apart from medicinal properties of angiosperms there are several pteridophytes which are also used ethnomedicinally in Eastern Uttar Pradesh (Rajkumar *et al.,* 2012).

Uttar Pradesh is fourth largest state of India (Fig: 1) which lies between 23º 52' - 30º 25' N latitude and 77º 3' - 84 º 39' E longitudes. The district Gorakhpur is situated between 26° 5' - 27° 29' N latitude and 84° 4' - 84° 26' E longitude. Due to change in the course of river Ghaghra and Rapti there has been a continuous change in its area. The district has almost uniform height of 94-96 m above sea level. The plain stops gently first to the south and then to the east indicating the general mode of drainage. A remarkable feature of its land scale is the total absence of marked topography. The forests of Gorakhpur division mainly comprises of 'Sal' trees. Geographically these forests must have formed a part of the great Sub Himalayan belt of Sal and miscellaneous for it which extended almost throughout the Sub Montane of the district without much interruption at present. These are found in completely isolated patches. Among themselves the forest patches are of varying size. Almost all these forests are surrounded by cultivation, except those which are well connected to the reserved forests and the forests in the extreme north. The headquarters of the forest division is at Gorakhpur and the forest nearest to the Gorakhpur Township (i.e. within 10 km radius), are Ramgarh Forest and Tilkonia forest. The most distant forest area is over 100 km away by road in the north. These forests are easily assembled by road. The vegetation of Kusmi forest consists of herbs, shrubs, trees and climbers. Trees, shrubs and climbers occur throughout the year and form permanent vegetation, while herbaceous plants mostly appearing during rainy season, decreasing during winter and finally become depleted in peak summer.

Materials and Methods

The work was done on the basis of ethnobotanical inventory consisting families names in alphabetical order followed by Botanical name, local name, part used and ethnomedicinal uses. Plant species were collected from different localities of Kusmi Forest for present study. The plants were properly processed, poisoned, preserved with number and herbarium was deposited in the Department of Botany, St. Andrew's College, Gorakhpur for future reference. Observations were made regarding medicinal properties of these plants.

Data Collection

The data was collected and presented in a tabular form consisting botanical name, vernacular name, family, habit, plant part used and medicinal uses.

Result and Discussion

About 52 plant species distributed in 51 genera belonging to 31 families were collected and documented for ethnomedicinal study. The most frequent families are Amaranthaceae (7 species), Euphorbiaceae (4 species), Asteraceae (3 species), Malvaceae (3 species), Fabaceae (2 species), Liliaceae (2 species), Nyctaginiaceae (2 species), Apocynaceae (2 species), Poaceae (2 species), Moraceae (2 species), Lamiaceae (2 species), and Solanaceae (2 species).

Rests of the families (Acanthaceae, Mimosaceae, Papaveraceae, Meliaceae, Scrophulariaceae, Caesalpiniaceae,

Bombaceae, Cannabinaceae, Capparidaceae, Commelinaceae, Zingiberaceae, Myrtaceae, Tiliaceae, Sapotaceae, Musaceae, Oxalidaceae, Plumbaginaceae, Brassicaceae and Cyperaceae) are represented with single plant species. These plants are widely used by localities to cure various ailments like weakness, dysentery, cold and cough, headache, cuts and wounds, fever, kidney stone, malaria, asthama, diarrhoea, jaundice, pain, typhoid, cancer, skin diseases and piles etc. (Fig. 2). These plants are also used by vaidyas for different formulation. Even though these plants need to be conserved, the whole forest is getting depleted due to increased anthropogenic activities and excessive urbanization.

Table.1 List of plant species with botanical name and ethnomedicinal uses

S.No.	Botanical Name	Vernacular Name	Family	Habit	Part/s Used	Medicinal Uses
1.	*Abutilon indicum* (L.)	Kanghi	Malvaceae	Shrub	Leaf, Root	Extract of fresh leaves mixed with a tea spoon honey is taken in Dysentery. Fresh roots crushed and taken with milk for few weeks in Weakness.
2.	*Acyranthes aspera* Linn.	Chirchita	Amaranthaceae	Shrub	Root	Paste is applied externally at the point of scorpion sting thrice a day.
3.	*Adhatoda vasica* Nees.	Adusa	Acanthaceae	Shrub	Leaf	Decoction of fresh leaves is taken in cough.
4.	*Aerva lanata* (Linn.) Juss.	Gedua ki chal	Amaranthaceae	Herb	Root	Paste is rubbed on the forehead in headache for 3-4 times a day.
5.	*Ageratum conyzoides* L.	Bhangra	Asteraceae	Herb	Leaf	Crushed fresh leaves are applied externally on sores and cuts fro few days.
6.	*Albizzia lebbeck* Benth.	Siris	Mimosaceae	Shrub	Root	Dilute root paste take orally and repeatedly till the patient regains consciousness in case of snake bite. Paste is also applied on the bite point.
7.	*Alternanthera sessilis* L.	Gurra Bhaji	Amaranthaceae	Herb	Whole plant	Whole plant is crushed and mixed with one teaspoon honey taken twice for 5 days in

						diarrhea. Paste of whole plant is used in skin diseases.
8.	*Amaranthus spinosus* L.	Chaulai	Amaranthaceae	Herb	Root	Grounded fresh roots can be applied on the snake bite area.
9.	*Amaranthus viridis* L.	Chaulai	Amaranthaceae	Herb	Leaf	Fresh leaves are cooked and taken in piles.
10.	*Argemone maxicana* Linn.	Peelikateli	Papaveraceae	Herb	Root	Used for expelling tapeworm.
11.	*Asparagus racemosus* Willd.	Satawar	Liliaceae	Under Shrub	Root	Root powder with cold water is given for biliousness, used as tonic.
12.	*Azadirachta indica* Juss.	Neem	Meliaceae	Tree	Leaf, Bark	Used as Anthelmintic, cosmetics, antifungal, antibacterial, antiviral, antiseptic.
13.	*Bacopa monnieri* (L.) Wettst.	Bramhi	Scrophulariaceae	Herb	Whole Plant	Whole plant dried and made powder, one teaspoon full powder mixed with cow milk and taken orally twice a day for few days in Nervous disorders. Decoction of whole plant is taken daily in fever.
14.	*Bauhinia variegata* Linn.	Kachnar	Caesalpiniaceae	Tree	Root	Decoction is used for reducing corpulence.
15.	*Butea monosperma* Roxb.	Palash, Dhak	Fabaceae	Tree	Bark, Leaf	Decoction of stem bark applied to children for inducing sleep, stem bark used juice used as antiseptic. Leaf paste used in piles. Flower used as diuretic and astringent.
16.	*Boerhaavia diffusa* L.	Punarnava	Nyctaginaceae	Herb	Whole plant	Decoction of whole plant is used twice daily for one month for kidney stone. Fresh leaves are taken directly before sunrise for few days in piles.
17.	*Bombax ceiba* Linn.	Samel	Bombaceae	Tree	Root	Root powder with milk is given in the morning for the

						treatment of sexual weakness.
18.	*Catheranthus roseus* (L.)	Sadabahar	Apocynaceae	Herb	Leaf, Root	Used as anti cancerous, decoction of leaves used in malaria.
19.	*Cannabis sativa* Linn.	Bhang	Cannabinaceae	Shrub	Leaf, Fruit	Used in asthma, cancer, cystitis, diarrhoea, dysentery, diuretic, epilepsy and fever.
20.	*Celosia argentea* L.	Murdha	Amaranthaceae	Herb	Leaf	Fresh leaves are crushed and taken for blood purification.
21.	*Cleome viscosa* L.	Hurhur	Capparaceae	Herb	Leaf	Boiled leaves are mixed with ghee, cooled and applied to the affected parts for cuts and wounds. Leaf paste is applied to reduce swellings.
22.	*Commelina bengalensis* L.	Kankaua	Commelinaceae	Herb	Seed	Decoction of seeds is taken in dysentery.
23.	*Curcuma domestica* Val.	Haldi	Zingiberaceae	Herb	Rhizome	Milk boiled with turmeric and sugar is given for cold.
24.	*Cynodon dactylon* (Linn.)	Doob ghas	Poaceae	Herb	Whole Plant	Whole plant is crushed and juice is taken for dysentery.
25.	*Cyperus rotundus* L.	Motha	Cyperaceae	Herb	Rhizome	Decoction of rhizome is given for the treatment of malaria.
26.	*Desmostachya bipinnata* Stapf.	Dhab	Poaceae	Herb	Root	Infusion of root is given jaundice and urinary trouble.
27.	*Desmodium triflorum* (L.)	Tinpatia	Fabaceae	Herb	Leaf	Fresh leaves juice is mixed with doubled quantity of water and taken twice daily for few days.
28.	*Emblica officinalis* (L.)	Amla	Euphorbiaceae	Tree	Leaf, fruit	Mostly used in asthma, boils, chicken pox, headache, diabetes, dysentery, dyspepsia, eruptions and hair care.
29.	*Eucalyptus citriodora* Labill.	Eucayptus	Myrtaceae	Tree	Leaf	Used in back pain, bronchitis, colds sores, cuts and wounds.
30.	*Euphorbia hirta* L.	Dudhi	Euphorbiaceae	Herb	Whole plant	Juice of whole plant is taken orally for

						intestinal worms. Also used in dysentery.
31.	*Ficus religosa* Linn.	Pipal	Moraceae	Tree	Root	Adventitious roots mixed with sugar are given with fresh water in chicken pox.
32.	*Gloriosa superba* Linn.	Kalihari	Liliaceae	Shrub	Root	Decoction of root with sesame oil and filtered and applied twice a day and followed by massage on joints having pain for one month.
33.	*Gompherena celosoides* Mart.	Kassia	Amaranthaceae	Herb	Whole plant	It is used in urinogenital disorders. Decoction of fresh plant parts is taken for one week.
34.	*Grewia asiatica* Linn.	Phalsa	Tiliaceae	Tree	Root	Paste of root is applied on the back before going to bed in backache.
35.	*Leucas aspera* (Willd.) Link.	Guma	Lamiaceae	Herb	Leaf	Decoction of leaves is prepared and 15ml is taken for a week in fever.
36.	*Launaea procumbens* Roxb.	Jangali Gobhi	Asteraceae	Herb	Root	Crushed root extract with honey is taken for three days in dysentery.
37.	*Madhuca indica* Gmel.	Mahua	Sapotaceae	Tree	Root	Paste of root is taken at bed time for three days continuously to expel intestinal worms, Mahua liquor is rubbed in joint pain.
38.	*Mallotus philippensis* Muell.- Arg.	Sindure	Euphorbiaceae	Tree	Fruits	Anthelmintic, used for destroying tape worms, externally applied for skin diseases.
39.	*Mirabilis jalapa* Linn.	Gulabans	Nyctaginaceae	Shrub	Root	Root paste is applied over wounds.
40.	*Morus alba* Linn.	Shahtoot	Moraceae	Tree	Root	Tea of root is given in diarrhoea.
41.	*Musa paradisica* Linn.	Kela	Musaceae	Annual Herb	Root	Saffron (*Crocus sativus*) stamens with banana root mixed and given once in the morning to treat typhoid.
42.	*Nerium indicum* Mill.	Kaner	Apocynaceae	Tree	Root	Roots ground and

						fried in ghee applied on the ear to cure inflammation.
43.	*Ocimum sanctum* Linn.	Tulsi	Lamiaceae	Herb	Root	Decoction in malarial fever.
44.	*Oxalis corniculata* L.	Khatti Buti	Oxalidaceae	Herb	Leaf	Whole plant is crushed and mixed with curd and taken orally in dysentery.
45.	*Physalis minima* L.	Rasbhari, Makoi	Solanaceae	Herb	Fruit	Fruits are cooked and taken in stomach ache.
46.	*Phyllanthus niruri* L.	Bhumi Amla	Euphorbiaceae	Herb	Whole Plant	Juice of whole plant is used in jaundice.
47.	*Plumbago zeylanica* Linn.	Chitra	Plumbaginaceae	Herb	Root	Crushed roots are boiled in mustard oil and filtered and kept in a bottle. 3-5 drops poured in the ear for pain and bleeding.
48.	*Raphanus sativus* Linn.	Muli	Brassicaceae	Herb	Root	Root juice is used in urinary trouble as syphilis.
49.	*Sida cordifolia* Linn.	Bariyara	Malvaceae	Herb	Root	Root extract is given once for 3 days in constipation.
50.	*Solanum nigrum* Linn.	Kali Makoi	Solanaceae	Herb	Root	Decoction of root is used in fever.
51.	*Tridex procumbens* L.	Coat button, Phulana	Asteraceae	Herb	Leaf	Leaf juice is applied on cuts and wounds.
52.	*Urena lobata* L.	Kathua	Malvaceae	Herb	Root	Root decoction is used in colic.

Fig.1 Map of study area

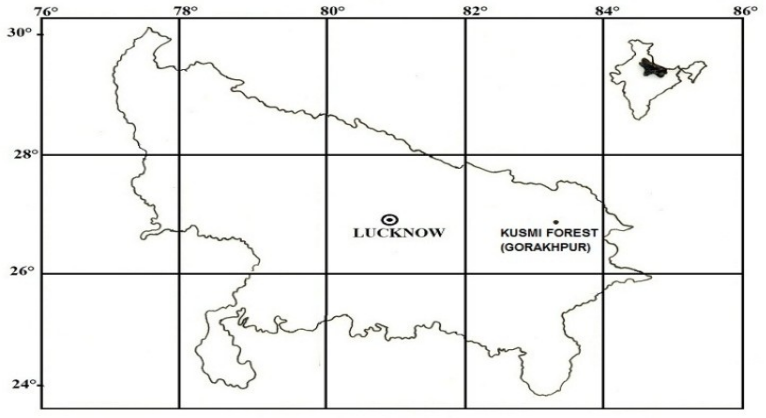
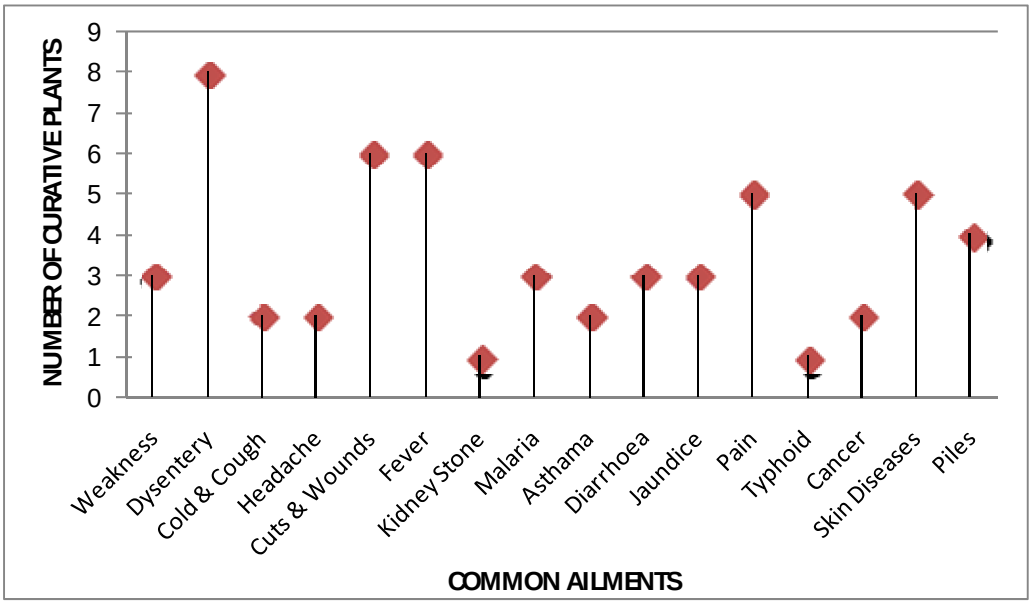


Fig.2 Graph showing common ailments and number of plants used



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