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Medicinal Plants used by the Tribals of Demurtala Village of the District Birbhum, West Bengal

Abstract

A survey of medicinal plants was carried out in the Demurtala village of Birbhum district along with their use by the residing tribal peoples for the treatment of various ailments in their daily life as well as for some serious diseases. Altogether 38 medicinal plants belong to 27 families have been collected from here in different seasons from January, 2014 to December, 2014. Their scientific name, local name, family, parts used and therapeutic uses are given. Due to indiscriminate exploitation they require conservation and cultivation. The tribal of the village mostly dependent on the herbal treatment for their primary health care which is attributed partly to their socio-economic and cultural status.

Keywords: Medicinal Plants, Ethnobotany, Decoction, West Bengal.

Introduction

World is endowed with a rich source of medicinal plants. The variety of number of plants having various therapeutic properties is quite astonishing. The use of various parts of certain widely grown plants to cure specific diseases has also been in vogue in our indigenous system of medicine from ancient time (Das, Dutta and Sharma, 2009). In India medicinal plants have made a good contribution to the development of ancient India "Materia Medica". From Vedic ages, the indigenous system of medicine has been an integral part of India culture and tradition. The use of plants to cure specific ailment is an age-old practice in our country. Such treatments in the indigenous system have been documented in Ayurveda, Siddha, Unani and other types of therapies. But during the past one Century there has been a rapid extension of Allopathic medicinal treatment in India and presently, it has become one of the most prevalent system of medicine in the modern society of this 21st century. Nevertheless, still now, the uses of natural products as medicine, especially plant products are widely used in the societies of rural people. Particularly in the remote areas with few health facilities. They acquired this knowledge by trial and error method, and become the store house of knowledge about the therapeutic properties of certain surrounding plants. This Knowledge was accumulated and passed on one generation to the other by oral tradition without any written document. However; our knowledge traditional health care system is not being inherited properly as a secret rite of the ancient societies [Srivastava et al, 1987, Bennet, 1983]. But now a days this knowledge is gradually disappearing in their younger generations due to various developmental and cultural activities by the state Govt. and NGOs, which are on way to changing the private and cultural life of the tribals (Binu, 2009). Thus, the elders are more informative on this subject. There are many interesting and sometime astonishing themes to learn while asking them regarding the uses of medicinal plants in their daily life (Krishnal, 1996). On this background, the objective of this paper is to document their variable information about the plants.

Study Area

For the purpose of the present study, a remote village situated in the western part of Birbhum district was selected. This is a small village under the post office Patadanga. Patharchapuri is situated at the north of it, southern part is Majhigram, at east and west Suri and Rajnagar is present. There are 45 families and about 350 inhabitants are present in this village. The dwellers are mainly tribal. They belong to different classes, such as – Hembram, Tudu, Soren, Murmu etc. In shape it is roughly it is roughly rectangular and about 1.5sq. Km. It is



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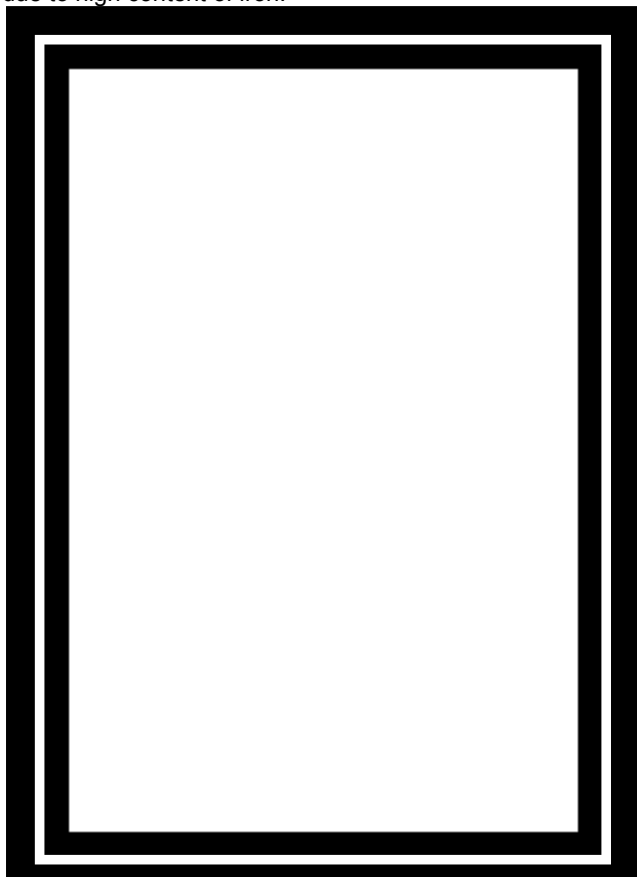
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about 12 km. away from Suri town. The climate is tropical with distinct 3 seasons; summer (March to June), Rainy (July to October) a winter (November to February). Temperature varies from 20C-40C. Relative humidity ranges 26%-84% around the year. Average rain fall is 760 mm out of which 80% falls during rainy season. The soil is chiefly sandy and is sometimes reddish in colour due to high content of iron.



Materials and Methods

Survey work was carried out in different areas of the village. The ethno botanical data presented here is the outcome of a series of intensive field studies conducted over a period of one year (January, 2014 to December, 2014) with a duration of 13-15 days. Information on ethno medicinal uses of different plants were collected through interviews with local medicine man i.e, ojha, vaidya, kabiraj and several households for recording the data especially local name, parts used, preparation, dosage of medicine etc. The data especially local name, botanical name with its family, medicinal values, parts used, preparation, dosage, method of application, etc. are enlisted in the paper, and the plants specimen were collected at that time for the preparation of their herbarium that will be deposited in the herbarium of Botany Department, Burdwan University, Burdwan.

Acalypha indica Linn. (Euphorbiaceae)

Local Name – Muktajhuri

Habit – Herb

Parts Used - Whole Plant.

Uses

1. A decoction of the herb is used as a cure for toothache and earache.

2. Fresh leaf juice is useful in rheumatoid arthritis and skin affections.
3. Juice with salt applied on eczema.
4. Paste of leaves applied on burns; with juice of lime, useful in early case of ringworm.
5. Powder of leaves for bedsores and maggot infested wounds, flowers with leaves of piper betle are taken in equal quantities and ground.
6. A spoonful of paste is administered daily twice for three days to cure cough.

Achyranthes aspera Linn. (Amaranthaceae)

Local Name – Apang, Chirchiti

Habit – Herb

Parts Used - The Whole Plant. Especially The Roots And Seeds.

Uses

1. Paste of leaves is used for relief in scorpion stings.
2. A decoction of the whole plant has medicinal value in case of piles, boils and other types of skin diseases.
3. A decoction of the roots is used for stomach troubles.
4. Aqueous extract of root used for stones in the bladder.

Justicia adhatoda Linn. (Acanthaceae)

Local Name – Basak

Habit – Shrub

Parts Used - Leaves, Flowers And Sterm Bark

Uses

1. The extraction of leaf with honey is used for the treatment of bronchitis and asthma.
2. Two spoonful of leaf extract with that of one spoonful of *Adhatoda vasica* and one spoonful of *Ocimum sanctum* are mixed and the mixture is taken in high fever.
3. Large doses of fresh juice of leaves are used in tuberculosis.
4. The extraction of bark is very useful for the treatment of bronchitis and cough.

Alstonia scholaris R.Br. (Apocynaceae)

Local Name – Chatim

Habit – Tree

Parts Used - Mainly Bark

Uses

1. The decoction of bark is used in the treatment of dysentery, abdominal disorder and in malarial fever.
2. The bark with *Ocimum sanctum* is grinded and the paste is applied to cure skin diseases.
3. About ten gram of bark is boiled with three cups of water and the decoction is used in the treatment of diarrhea.
4. The decoction of bark is used in various types of skin diseases.

Amaranthus spinosus Linn. (Amaranthaceae)

Local Name – Kanta Notey

Habit – Herb

Parts Used - Roots

Uses

1. Roots and 4-5 seeds of *Piper nigrum* are pasted and the extract is used to cure blood dysentery.
2. Roots are eaten with molasses to control white discharge.

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***Amaranthus viridis* Linn. (Amaranthaceae)**

Local Name – Notey

Habit – Herb

Parts Used - Roots, Leaves.

Uses

1. The root is pasted and mixed with 1 spoonful of honey, it is taken daily for treatment of dyspepsia.
2. The juice of leaves mixed with cow milk and it is taken to release from poison of rats.
3. The extraction of leaves is applied on pimple to cure from it.
4. The leaf juice is mixed with sugar and it is taken in the infection of scorpion sting.

***Andrographis paniculata* (Burm.f.) Wall. ex Nees.**

(Acanthaceae)

Herb No – 7

Local Name – Kalmegh

Habit – Herb

Parts Used - Leaves, Stem.

Uses

1. About 25 grams of leaves are boiled in 4 cups of water and make it about one cup. This decoction is taken in every morning and evening for 15 days to cure malaria.
2. 5 grams of leaves with 5 grams of *Nyctanthes arbortristis* and 5 grams of *Melia azadirachta* and a pinch of salt are crushed and extracted an 1 spoonful of this extract is taken in every morning and evening to cure typhoid.
3. 2 spoonful of leaf extracts are taken in every morning in empty stomach for healthy liver.
4. 1 spoonful of Leaf extracts with 1 spoonful of honey is taken in every morning to cure ascariasis and also to cure constipation of children

***Boerhavia diffusa* Linn. (Nyctaginaceae)**

Herb No – 8

Local Name – Punarnava

Habit – Herb

Parts Used - Whole Plant.

Uses

1. Leaf extracts is used to cure jaundice.
2. A cup of leaf extracts is mixed with 2 spoonful of honey and is taken for 15 days to control menstrual problem.

***Bryophyllum calycinum* Salisb. (Crassulaceae)**

Local Name – Pathar Kuchi

Habit – Herb

Parts Used - Leaves

Uses

1. 4 spoonful of leaf extract is eaten for one month for melting of gall bladder stone.
2. 4-5 leaves are chewed with salt to cure diarrhea.
3. Leaf paste is applied to stop bleeding instantly.
4. Leaf extract also used in piles to relief from pain.

***Calotropis gigantea* (Linn.) R. Br. Ex Ait.**

(Asclepiadaceae)

Local Name – Achanda

Habit – Shrub

Parts Used – Roots and Leaves.

Uses

1. 3 spoonful of leaf extract is taken to cure intermittent fevers in three day's.

2. 2 spoonfuls of root extracts added to a cup of water and is taken to regulate gastric problems.

3. Root extract with leaves of *Ocimum sanctum* and honey is useful in asthma, bronchitis and dyspepsia.

4. Paste of leaves is used in swelling.

***Carica papaya* Linn.**

Herb No – 11

Local Name – Papaya

Habit – Tree

Parts Used - Fruit, Seeds And Leaf

Uses

1. Women in various countries have long been used green papaya as an herbal medicine for contraceptive and abortion.
2. It is marketed in tablet form to remedy digestive problems.
3. Papaya leaves are made into tea as a treatment of malaria.
4. Papaya is used as a medicine for dengue fever.
5. Papaya can raise platelet level in blood.
6. Papaya seed might contain antibacterial properties.

***Catharanthus roseus* (Linn.) G. Don (Apocynaceae)**

Local Name – Nayantara

Habit – Herb

Parts Used - Roots And Leaves.

Uses

1. 2 spoonful of leaf extract with 2 spoonful of root extract of *withania somnifera* are mixture is taken for 15 days to control menstrual disorders.
2. Extraction of root and leaves use in cure of hypertension.

***Clerodendrum indicum* (Linn.) O. Kuntze**

(Verbenaceae)

Local Name – Ghentu

Habit – Shrub

Parts Used - Leaves.

Uses

1. Leaf paste is applied directly on the scalp of head to remove louses.
2. A decoction of leaves is mixed with water during bath to cure skin disease.
3. Leaf paste is also used for relief in scorpion sting.
4. 10 grams of leaves are mixed with about 10 grams of *Adhatoda vasica* and *Ocimum sanctum* each and then the mixture is boiled and the decoction is taken to cure malarial fever.

***Clitoria ternatea* Linn. (Fabaceae)**

Local Name – Aparajita

Habit – Herb, Climber

Parts Used - Roots, Seeds.

Uses

1. Root paste is used to relief in burning sensation.
2. Decoction of roots is useful in ophthalmopathy.
3. Root extract with honey is used to cure bronchitis, asthma.
4. Root and seed extracts is used to cure pulmonary tuberculosis and fever.

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Cynodon dactylon (L.) Pers. (Poaceae)

Local Name – Durba

Habit – Shrub

Parts Used - Leaf

Uses

1. 4 spoonful of leaf extract is mixed with 4 spoonful of *Ocimum sanctum* leaf extract and is taken in every morning for 7 days to cure in kidney stone.
2. 4 spoonful of turmeric juice is mixed and is taken to cure white discharge.
3. The decoction of leaves is applied to stop bleeding instantly.
4. The extraction of leaves is used to cure gall bladder stone.

Dalbergia sissoo Roxb (fabaceae)

Local Name – Sissoo

Habit – Tree

Parts Used - Roots, Leaves Bark, Heart Wood.

Uses

1. A decoction of bark is used in skin diseases.
2. 2 spoonful of root extract are taken with 1 spoonful of honey to cure diarrhea and dysentery.
3. Extraction of bark is taken to cure dyspepsia.
4. The decoction of bark and leaves is used to cure intermittent fevers.

Desmodium gangeticum DC. (Fabaceae)

Local Name – Salapan

Habit – Herb

Parts Used - Roots

Uses

1. 2 spoonful of root paste is mixed with a spoonful of honey and is administered daily twice to cure cough.
2. The decoction of roots also applied to cure bronchitis.

Euphorbia hirta Linn. (Euphorbiaceae)

Herb No – 18

Local Name – Gurri Mokka

Habit – Herb

Parts Used - Aerial Parts.

Uses

1. 2 spoonful of paste is administered daily twice for 3 days to cure cough.
2. The leaves along with stem and leaves of *Leucas aspera* and seeds of *Piper nigrum* are taken in equal quantity and grinded, administered to cure bronchitis.

Ficus benghalensis Linn. (Moraceae)

Local Name – Bat

Habit – Tree

Parts Used - Aerial Roots, Leaves, Buds, Fruits, Latex.

Uses

1. The latex is applied to cure cracked hill.
2. The bark, bud and the aerial root, each are taken approximately three gram and are boiled two cups of water. When it is concentrated to one cup, it is mixed with milk and is drunk to cure bleeding in nose.

Ficus religiosa Linn. (Moraceae)

Local Name-Aswattha

Habit –Tree

Parts Used - Bark, Laves, Tender Shoots, Fruits, Seeds, Latex.

Uses

1. Dried fruits pulverized and are added to water, which is taken to cure asthma.
2. The bark is burnt and its powdered form is a good absorbent for inflammatory swelling and good for burns.
3. The latex is used in hemorrhages.
4. The latex is also used to cure inflammation.

Heliotropium indicum Linn. (Boraginaceae)

Local Name – Hantisund

Habit – Herb

Parts Used - Leaves And Root.

Uses

1. The decoction of leaf is used in fever.
2. The root extraction is used in cough.
3. Local application of leaf paste is very effective for ulcers, wounds, skin infection.
4. Leaf paste is used to cure stings of insects.
5. Root paste is used in ring worm.
6. One drop of leaf extract is applied in eyes to cure eye infection.

Hemidesmus indicus Linn. (Asclepiadaceae)

Local Name – Anantamul

Habit – Herb

Parts Used - Roots.

Uses

1. 2-3grams of roots are pasted and is taken to cure asthma and eczema.
2. 1-2 gram dust of roots is taken in half cup of milk and it is taken daily to cure skin problems.
3. 3 grams of root is grinded and mixed with sugar and taken daily to cure dyspepsia.
4. 2 grams of dry roots are dusted and mixed with 1 spoonful of honey. It is taken to increase appetite.

Hibiscus rosa-sinensis Linn. (Malvaceae)

Local Name – Jaba

Habit – Woody Shrub

Parts Used - Leaves And Flowers.

Uses

1. Flowers are heated with coconut oil and are applied in hair for blackening.
2. 4-5 floral buds are crushed with water and mixed with molasses and are taken in every morning for 7 days during menstruation to cure menstrual disorder.

Jatropha gossypifolia Linn. (Euphorbiaceae)

Local Name – Varenda

Habit – Shrub

Parts Used - Leaves.

Uses

1. Leaves are taken in mouth and rubbed make the gum healthy.
2. Leaf extracts are used in eczema and carbuncle.

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Lantana Camara L. Moldenke (Verbenaceae)

Local Name – Putus

Habit – Shrub

Parts Used – Leaves, Root.

Uses

1. An infusion of the leaves is good for bilious fever and eczema.
2. Powdered leaves are used for cuts, wounds and swelling.
3. A decoction of fresh root is a good gargle for odontalgia.
4. Extraction of fresh root is applied to cure dysentery.

Leucas cephalotes (Roth.) spreng (Lamiaceae)

Herb No – 26

Local Name – Gouthi

Habit – Herb

Parts Used - Leaves.

Uses

1. Leaf extract is used as inflammatory.
2. Leaves are crushed on palm and the aroma is inhaled daily twice for three days to cure cold.

Madhuca Indica Gmelin (Sapotaceae)

Local Name – Mahua

Habit – Tree

Parts Used - Bark And Flowers

Uses

1. The bark is used to cure leprosy and to heal wounds.
2. The flowers are prepared to relieve coughs, biliousness and heart trouble while the food is given in cases of consumption and blood disease.

Mangifera indica Linn.

Local Name – Aam

Habit – Tree

Parts Used - Leaves, Stem Bark.

Uses

1. 3-4 leaves are boiled and the decoction is taken to control vomiting.
2. The stem bark of Mangifera indica is washed in water and mixed with goat milk and grinded to make a paste. Then it is filtrated and eaten to cure blood dysentery.

Marsilea quadrifolia Linn. (Marsileaceae)

Local Name – Shusuni

Habit – Herb

Parts Used - Leaves.

Uses

1. Leaf extract with honey is very effective in asthma and bronchial problems.
2. The leaf paste is applied directly on scorpion sting.
3. Leaf juice is very useful to reduce high blood pressure.
4. 3 spoonful of leaf extract is taken every morning to relief in urinal problems.

Azadirachta indica Juss. (Meliaceae)

Local Name – Neem

Habit – Tree

Parts Used - Leaves, Roots, Stem Branches, Flower.

Uses

1. Pastes of leaves are used as a remedy for skin diseases.
2. One spoonful powdered leaves is mixed with one spoonful of honey to cure dysentery and ascariasis.

3. One spoonful leaf extract mixed with 1 spoonful of turmeric and is taken in empty stomach in the morning to purify blood and make skin fairer.

4. Young leaves are boiled and the juice is taken to cure pox.

5. The small branches are chewed to cure toothache.

6. The Paste of leaves is applied on sore to cure it.

Moringa oleifera Lamk. (Moringaceae)

Local Name – Sojne

Habit – Tree

Parts Used - Leaves, Fruit, Seeds, And Bark.

Uses

1. Cooked leaves are eaten daily to reduce high blood pressure.

2. The bark is pasted with turmeric and applied on sprain.

3. Half cup of leaf extract is taken daily to cure anemia.

4. Fruit is used for curing liver and spleen diseases.

5. Seed oil is used for the treatment of rheumatism.

Nyctanthes arbor-tristis Linn. (Olacaceae)

Local Name – Shiuli

Habit – Shrub

Parts Used - Leaves.

Uses

1. 5-6 leaves are grinded with a piece of ginger and the juice is taken to cure malarial fever.

2. 25-30 leaves are boiled with 3 cups of water and the decoction is taken in every morning and night for relief in gout.

3. 2 spoonful of leaf extract is taken in every morning to cure cough.

Ocimum sanctum Linn. (Lamiaceae)

Local Name – Tulsi

Habit – Herb

Parts Used - Whole Plant.

Uses

1. The inflorescence is dried and pulverized and taken 5 grams and mixed with half spoon honey. This mixture is taken to cure migraine.

2. 2 spoonful of whole plant paste mixed with a spoonful of honey is administered twice daily for three days to cure cough.

Oxalis corniculata Linn. (Oxalidaceae)

Local Name – Aamrul

Habit – Creeping Herb.

Parts Used - Mainly Leaves.

Uses

1. Leaf extract with mastered oil are heated and massaged in the chest to cure cold and cough.

2. Paste of leaves are eaten to purify the blood and also for treating diarrhea and dysentery.

3. The juice from the leaves is applied to open wounds.

4. The crushed leaves are used to treat children with mouth infections as well as to treat infected navels of babies.

5. An infusion of leaves is used to treat induration of the breasts and watery vaginal discharges.

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***Piper betle* Linn. (Piperaceae)**

Local Name – Paan

Habit – Climber

Parts Used - Leaves And Roots.

Uses

1. The leaf extract is applied on the scalp of head to remove louses.
2. Leaves are anti bacterial and the extract in the treatment of purulent parodontosis.
3. The extract of roots is applied in treating rheumatism.

***Psidium guajava* Linn. (Myrtaceae)**

Local Name – Peyara

Habit – Tree

Parts Used - Leaves, Fruitroots.

Uses

1. Juice of the leaves is used for treating in diarrhea and dysentery.
2. An infusion of the leaves and roots is used to treat indigestion.
3. The leaves are squeezed in salt water and the solution is used to treat toothaches.
4. The fruit is eaten to cure constipation.

***Shorea robusta* Gartn. f. *Fruct* (Dipterocarpaceae)**

Local Name – Sal

Habit – Tree

Parts Used - Leaf, Seeds And Fruit

Uses

1. Sal tree resin is used as an astringent in Ayurvedic medicine.
2. It is also burned as incense in Hindu Ceremonies and Sal seeds and fruit are a source of lamp oil and vegetable fat.

***Tagetes patula* Linn. (Asteraceae)**

Local Name – Ganda

Habit – Herb

Parts Used - Leaves, Flowers.

Uses

1. The leaf paste is used as an antiseptic.
2. The leaf pastes with 4-5 grains of sugar are very effective to stop bleeding immediately.
3. About 25 grams of flowers are crushed with 50 grams of *Cynodon dactylon* and the juice is taken 1 spoonful in every 3 hours for 4 days to cure blood dysentery.

Conclusion

The paper deals with 38 plants species belonging to 27 families used by the tribal people of Demurtala village for their health care. It includes trees, shrubs, herbs, climbers. The knowledge about the uses of plants by the tribes appears to be unknown or little known outside their community. The traditional knowledge regarding these plants and their utilization has to be realized and put to use in modern medicine by further pharmacological studies. The ethno medicinal research has led to the development of many commercial plants drugs necessary for the welfare of mankind.

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