Ethnomedicinal Studies in Narsinghpur Forests of Athagarh Forest Division, District Cuttack, Odisha

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Abstract

The present study is based on an ethnobotanical survey of Athagarh Forest Division in Cuttack district of Odisha conducted during the years 2010-11. The paper presents 33 folk recipes comprising 33 taxa of folk medicinal plants used by various tribes of this area i.e. Kondh, Munda, Naik, Santal and other local inhabitants etc. for the treatment of various diseases. The folk plants are arranged alphabetically by their botanical names, providing information on their family, collection number with locality, local name, part(s) used, name of the disease(s) against which used, mode of preparation and administration, for each recipe discussed. The data provided will help to discover new drugs of plant origin for many of the diseases, thus far, incurable in modern medicine.

Key Words: Ethnobotanical survey, Medicinal plants, Tribal people, Cuttack, India.

Introduction

India has a century's old tradition of using medicinal plants and herbal medicines for the alleviation of various diseases and ailments, as well as for the promotion of health and happiness. People often look towards the traditional systems of medicine not only for the curative effects of plants, but also to hopefully provide them with elixirs of youth and good health. Ethnomedicine is one of the systems of medicine that is widely practiced among the tribal and aboriginal populations of our country for the treatment of ailments.

The tribal tracts are the storehouses of information and knowledge on the multiple uses of plants. However, such traditional knowledge is rapidly disappearing. There is an urgent need to document this knowledge, as otherwise it will be lost forever. The knowledge of the use of natural plant products amongst our people is truly phenomenal.

District Cuttack is situated in the North latitude 20º 03' and 20º 40' and between East longitude 84º 58' and 86º 20' with narrow strip of land spreading from east to west. The district is surrounded in the Northern to Western by Jajpur, Dhenkanal, and Angul district Western to South by Nayagargh, Khurda and Southern to Eastern by Jagatsinghpur, Kendrapara districts. Topographically, Cuttack has two prominent divisions i.e. hilly terrain on the west and Mahanadi delta plain on the East (Fig. 1). The highly fertile and densely populated land is criss-crossed by rivers and rivulets. These water

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bodies function both as tributaries and distributaries of the Mahanadi river system. Large portion of the land mass is low lying and gets submerged during monsoon. People of Cuttack largely depend upon agriculture as the primary means of livelihood.

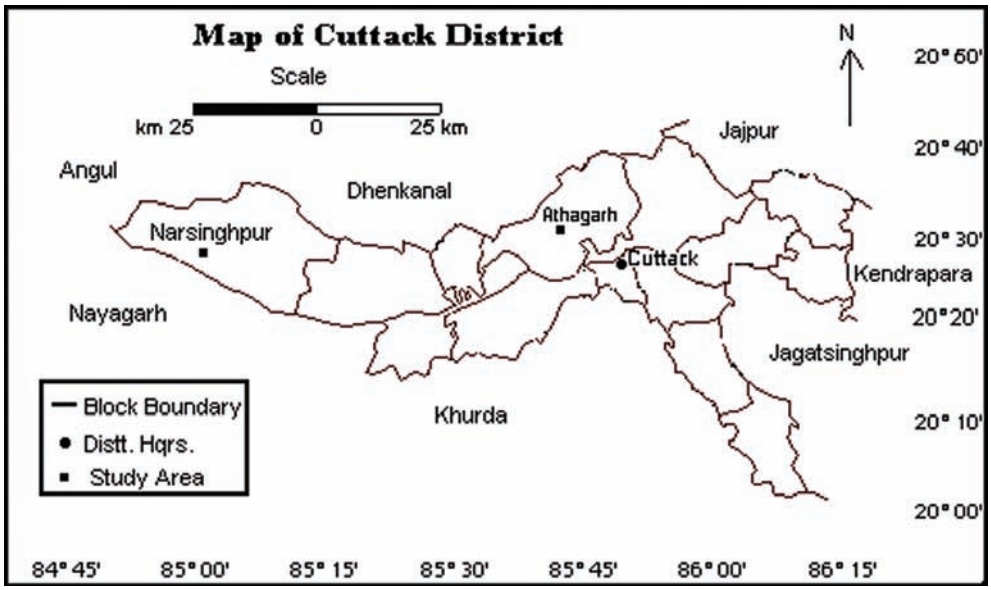

Fig. 1: Map of the Study Area

The Cuttack district has different types of forest vegetation i.e. evergreen forest, sal forest, dry deciduous forest, and scrub type and provide home to the occupant tribes, apart from the rural population of the district. All these people practice mainly agriculture. The tribal communities Kondh, Munda, Naik etc., are settled in different places of the study areas. Now, it has become necessary to collect such information from every nook & corner of the country as the wave of modernization and urbanization is putting long strides. With this viewpoint, the medicinal folklores have been tapped. The Survey Team of Regional Research Institute of Unani Medicine, Bhadrak surveyed Cuttack district during the years 2010-11 and collected plant specimens for Herbarium.

Materials and Methods

Frequent field trips were undertaken in order to ethnobotanical survey of the inhabitants of the Cuttack district and to make collections of native medicinal plants. Information regarding medicinal plants was obtained in meetings i. e. personally interview with tribal people who practiced indigenous medicine. In many cases, it was first necessary to gain a good rapport with these people in order to win over their confidence. Most of the information included in this study was gathered from elderly and experienced practitioners who were very

knowledgeable about medicinal plants. Our field notebook delineates all the usage procedures adopted by these tribal people. The gathered data were cross-checked for reliability and accuracy by interacting with different groups of the tribals from different habitats to confirm the use, mode of administration and dosage differences of the herbal materials, if any. After eliciting detailed information regarding the wild medicinal plants, the collected materials were carefully brought to the Survey of Medicinal Plants Unit, Regional Research Institute of Unani Medicine, Bhadrak for identification and processing. Herbarium sheets for all the voucher specimens were prepared and deposited in the Herbarium of Survey of Medicinal Plants Unit, Regional Research Institute of Unani Medicine, Bhadrak, India.

The medicinal plants were botanically identified by using the *Flora of Orissa* (Saxena & Brahmam, 1994-1996) and the *Botany of Bihar & Orissa* (Haines, 1921-25). Confirmation of the identifications was made through the comparison of our specimens with those housed in the Herbarium of the Survey of Medicinal Plants Unit, Regional Research Institute of Unani Medicine, Bhadrak.

Enumeration

The medicinal plants used as folk medicine in the study area are arranged in alphabetical order. Their botanical name, family in bracket, collection number with locality, local name, part used, name of the disease(s) against which used, mode of preparation and administration and Informant who shared his valuable information are given for each recipe discussed.

Aegle marmelos (L.) Corr. (Rutaceae); 8855; Belo; Leaf; Boils; Leaves paste is cooked in cow's Ghee and applied lukewarm on boils for healing wounds. Kondh.

Alangium salvifolium (L.f.) Wang. (Alangiaceae); 8881; Ankulo; Stem Bark; Joint Pain; Stem bark, leaves of Bisalyakarni (*Tridax procumbens*) & Sonargada (*Grewia hirsuta*) in equal quantity are made into paste and boiled in Jada (*Ricinus communis*) oil. Resultant oil is applied locally on joints to relieve pain. Kondh.

Ampelocissus divericata (Wall. *ex* Lawson.) Planch (Vitaceae); 8851-Badabhuin; Kanjokanjia; Plant; Animal wounds; Plant paste is applied on infested neck wounds of domestic animals for healing of wounds.

Andrographis paniculata (Burm.f.) Wall. ex G.Don (Acanthaceae); 8850; Bhuineem; Leaf; Scabies; Leaf paste is applied locally on scabies. Kondh.

Anogeissus latifolia (Roxb. ex DC) Wall. (Combretaceae); 8849-Badabhuin; Dhouda; Stem Bark; Diarrhoea; 5 gm stem bark powder is given twice a day with water to treat diarrhoea.

Argyreia nervosa (Burm.f.) Boj (Convolvulaceae); 8872; Hathikano; Root; Joint Pain; A handful roots of this plant and root bark of *Calotropis gigantea* (Arakh) in equal quantity powdered and made into pills of pea size. Two pills are given with milk for one month to get relief from joints pain. Kondh.

Asparagus racemosus Willd. (Liliaceae); 8843-Bhizipada; Chhatuari; Root; Spermatorrhoea; Powdered root with sugar candy juice is given 20 gm once daily at bed time to treat Spermatorrhoea.

Atylosia scarabaeoides (L.) Benth. (Fabaceae); 8860-Badabhuin; Ban Kulthia; Seeds; Anthelmintic; 3 gm seed powder mixed with ghee is taken as anthelmintic drug to expel tapeworm. Kondh.

Bridelia retusa (L.) Spreng (Euphorbiaceae); 8844- Bhizipada; Kantakassi; Stem bark; Diarrhoea; 10 gm of stem bark paste is given twice daily with sufficient water to check diarrhoea.

Cajanus cajan (L.) Huth (Fabaceae); 8858-Badabhuin; Harar; Leaf; Jaundice; 5-10 gm of leaves powder is given with curd twice a day for 7 days to the treat jaundice. Kondh.

Cipadessa baccifera (Roth.) Miq. (Meliaceae); 8847-Badabhuin; Nalbalia; Twigs; Dental Care; Twigs are popularly used for brushing teeth to strengthen gum. Kondh.

Cleistanthus collinus (Roxb.) Benth ex Hook.f. (Euphorbiaceae); 8839-Bhizipada; Karoda; Fruit; Skin diseases; Purified fruits are boiled in mustard oil, cooled and filtered. Resultant medicated oil is used locally in scabies and other skin diseases.

Cocculus hirsutus (L.) Diels. (Menispermaceae); 8887; Dahdaiya; Leaf; Headache; Leaf paste is applied on forehead to get relief from headache. Kondh.

Curculigo orchioides Gaertn. (Hypoxidaceae); 8840- Bhizipada; Talmuli; Root; Spermatorrhoea; Root of this species with roots of Satabari (*Asparagus racemosus*) is pounded together and taken 5-10 gm daily with milk at bed time for one month to treat spermatorrhoea.

Cuscuta reflexa Roxb. (Cuscutaceae); 8871; Nirmuli; Plant; Sprain; Plant prepared in mustard oil is applied warm on sprain to get relief from pain. Kondh.

Elephantopus scaber L. (Asteraceae); 8841- Bhizipada; Mayurchudia; Root; Diarrhoea; 5-10 gm root powder is taken two times daily with sufficient water to treat diarrhoeal problems.

Hemidesmus indicus (L.) R.Br. (Periplocaceae); 8842-Bhizipada, Chimannoi; Root; Skin diseases, Diarrhoea; Powdered root in desired quantity is taken two times daily to treat diarrhoea and skin diseases.

Holarrhena pubescens (Buch.-Ham.) Wall. *ex* G.Don (Apocynaceae); 8857-Badabhuin; Kuring; Stem bark; Dysentery; 5 gm of stem bark powder is given with sufficient water/curd twice a day to treat chronic dysentery. Kondh.

Hybanthus enneaspermus (L.) F.v. Muell. (Violaceae); 8836-Malasahi; Madanmast; Plant; Jaundice; 30 ml of plant juice is given with required quantity of sugar twice a day for the treatment of jaundice.

Leonotis nepetaefolia R. Br. (Lamiaceae); 8894; Bhutabiari; Root; Menstrual problems; One teaspoon root decoction is given every morning for about one week to treat excess bleeding during menstruation. Kondh.

Lygodium flexuosum (L.) Sw. (Lygodiaceae); 8845-Bhizipada; Kala Mahajal; Root; Menorrhagia; A handful of roots boiled in sufficient water, strained and cooled. 20 ml of resultant liquid is given twice a day for week to treat menorrhagia. Kondh.

Ocimum canum Sims (Lamiaceae); 8874; Tulasi; Seed; Eye complaint; Seeds are placed on eye to remove impurities such as foreign particles, to treat redness etc. Kondh.

Phyllanthus reticulatus Poir. (Euphorbiaceae); 8884; Jhojhang; Leaf; Swelling; A handful of leaves are boiled in sufficient mustard oil and applied warm on affected parts to subside swelling. Kondh.

Pterospermum xylocarpum (Gaertn.) S. & W. (Sterculiaceae); 8862-Badabhuin; Giringa; Flowers; Diarrhoea & Dysentery; A handful of dried flowers are made into powder and 5-10 gm powder is taken with sufficient water two times daily to check diarrhoea and dysentery. Kondh.

Scoparia dulcis L. (Scrophulariaceae); 8837-Bhizipada, Chirorito; Root; Jaundice; 3 cm long root is powdered, mixed with rice water (starchy water) in required quantity and taken for three days to treat jaundice.

Smilax perfoliata Lour. (Smilacaceae); 8846-Bhizipada; Mutturi; Twigs; Toothache; Tender twigs are used for brushing teeth to strengthen gums and check bleeding. Kondh.

Solanum virginianum L. (Solanaceae); 8853-Badabhuin; Akranti; Fruit; Toothache; Fruit/seed decoction is prescribed for gargling to get relief from toothache. Kondh.

Strychnos nux-vomica L. (Strychnaceae); 8882-Anantprasad; Kochila; Seed; Joint Pain; Seed kernel of purified seeds is powdered and 3 gm powder is taken orally with milk twice a day to treat joints pain. Kondh.

Tephrosia purpurea (L.) Pers. (Fabaceae); 8859-Badabhuin; Kulthia; Root; Stomachache; 3-5 gm root powder is given with water two times daily to get relief from stomachache. Kondh.

Terminalia chebula Retz. (Combretaceae); 8856-Badabhuin; Harida; Leaf; Eczema (Dermatitis); A handful of leaves made into paste with water, is applied on eczematous lesions. Kondh.

Tridax procumbens L. (Asteraceae); 8877; Bishalyakarani; Cuts; Leaf; Crushed leaves are directly applied on minor cuts to check bleeding and get relief from pain. Kondh.

Wrightia arborea (Dennst.) Mabb. (Apocynaceae); 8865-Badabhuin; Nata Kurma; Stem bark; Swelling; Stem bark made into paste is applied on inflamed body parts to reduce swelling. Kondh.

Ziziphus mauritiana Lam. (Rhamnaceae); 8870; Kantakoli; Stem bark; Headache; Stem bark made into paste is applied on forehead to treat headache. Kondh.

Results and Discussion

In the present study some traditional therapeutic methods employed by the natives of the Cuttack district have been discussed. Out of 267 species of medicinal plants collected and identified from the study area 33 are used locally in folk medicines by local tribals and other ethnic people i.e. Kondh, Naik, Munda and other rural folks etc. for the treatment of various diseases including animal wounds, boils, cuts, dental care, diarrhoea & dysentery, eye complaint, headache, jaundice, joint pain, menstrual problems, skin diseases, spermatorrhoea, sprain, stomachache, and swelling.

The data on folk medicinal uses have been compared with published available literature. (Ali *et al.,* 2010, Anonymous, 2001, 2006; Chopra *et al.,* 1992; Girach *et al.,* 2011; Jain 1991, Jain & Rao 1967; Khare, 2007; Kirtikar & Basu, 1935; Mukesh *et al.,* 2010, 2011; Rout *et al.,* 2009; Tribedi *et al.,* 1982) and found that most of the folk medicinal plants are duly reported in the literature, however, mode of administration, ingredients and part used are different. Therefore, the present study represents contemporary folk uses of medicinal plants of the district Cuttack. It would be worthwhile to subject all these folk drugs to scientific testing in the context of claims reported herein.

The collection, identification and documentation of ethno-medicinal data on biological resources are inevitable steps for bio-prospecting. These plants may serve as source of some important medicine against some major diseases. Therefore, these tribal claims should be further validated scientifically.

Most plants used by tribal and traditional communities are easily available in forests, near huts or in villages. It is easy to fetch them. Generally plants are used in a crushed form. This study established that many different parts of the plant species are used as medicine e.g. root, leaf, stem bark, twigs, flowers, fruit, seed, whole plant, etc. The most commonly used plant parts are roots and leaves. Amongst 33 plant species, roots of 9 species, leaves of 7 species, stem bark of 6 species, twigs of 2 species, flowers of 1 species, fruits of 2 species, seeds of 3 species and whole plant of 3 species are used for the treatment of various diseases (Fig. 2).

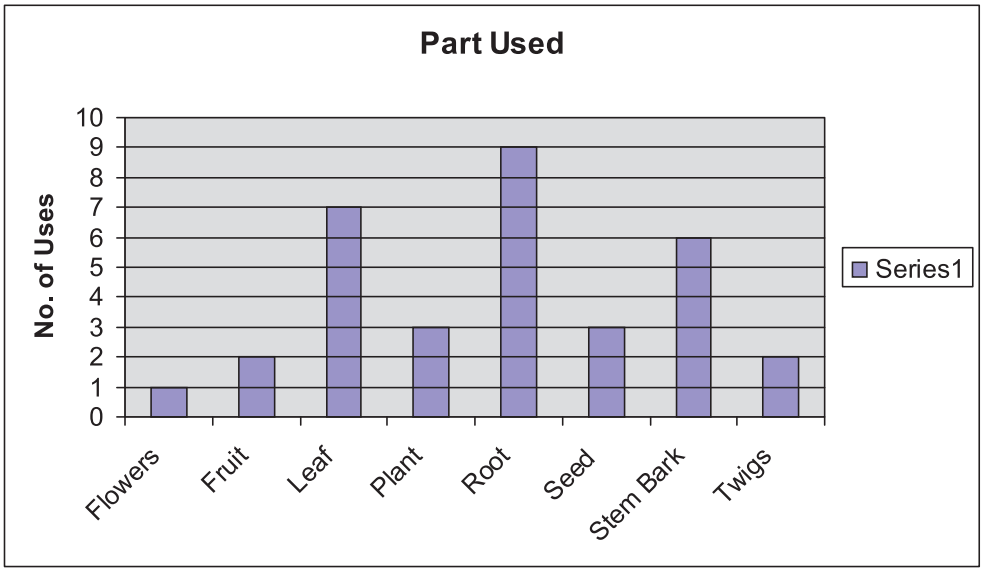

Fig. 2: Number of Uses of Plant Parts

Disease-wise distribution of plants i.e., Animal wounds 1, Anthelmintic 1, Boils 1, Cuts1, Dental Care 3, Diarrhoea 7, Eye complaint 1, Headache 2, Jaundice 3, Joint Pain 3, Menstrual problems 2, Skin diseases 4, Spermatorrhoea 2, Sprain1, Stomachache 1, Swelling 2 Fig. 3.

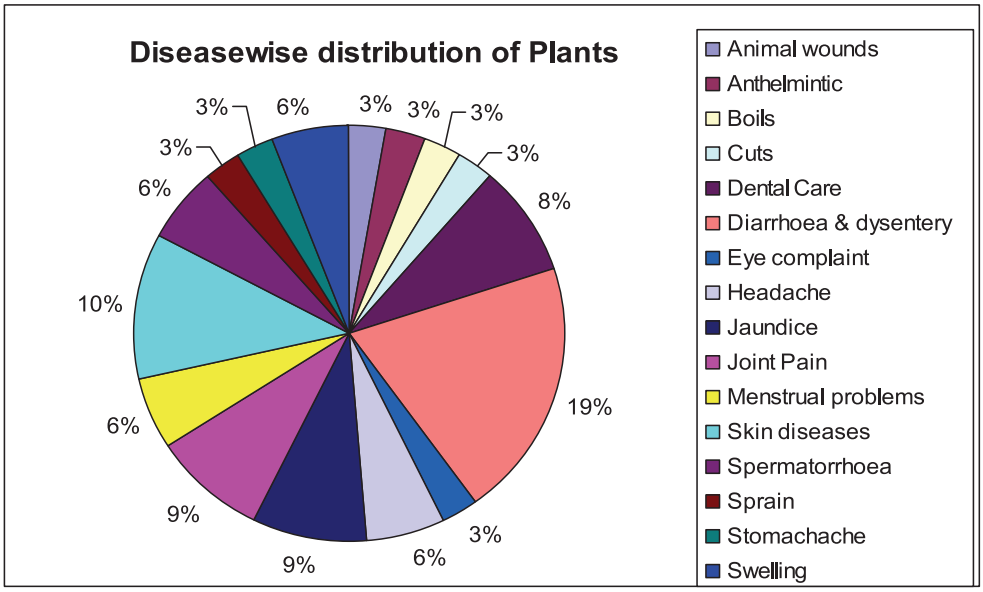

Fig. 3: Uses of Plants in Different Diseases

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