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Ethnomedicinal Observations Among the Tribal People of Koraput District, Orissa, India

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Abstract: An attempt has been made to evaluate plants used for medicare by the tribal people of Koraput district, Orissa. The study reveals the indigenous medicine uses of 39 plant species belonging to 37 genera and 30 families. Documentation of traditional knowledge on the ethnomedicinal uses of these plants is essential for conservation efforts for the plant resources and new drug development.

Key words: Ethnomedicine, tribal practitioner, medicinal plants, Koraput district, Orissa

Introduction

Medicinal plants constitute the base of health care systems in many societies. Globally, about 85% of the traditional medicines used for primary health care derived from plants (Farnsworth, 1988). Today, according to the World Health Organization (WHO), as many as 80% of the world's people depend on traditional medicine and in India, 65% of the population in the rural areas use Ayurveda and medicinal plants to help meet their primary health care needs (WHO Status Report, 2002). In India, more than 43% of the total flowering plants are reported to be of medicinal importance (Pushpangadan, 1995). In the interior areas of Koraput district, plants become the only source of medicine because lack of modern facilities and remoteness. Ironically, information on the use of plants for medicine from this area is completely lacking. At the same time, the traditional knowledge is rapidly degrading due to modernization of that area and the younger generation is not interested to learn from older generation. Thus, many important information may be lost in absence of proper documentation. The objective of the study was to collect and document information on utilization of medicinal plants by the tribal practitioners in Koraput district, Orissa.

Study Area

Koraput district lies between 18° 14′ to 19° 14′ N latitude and 82° 05′ to 83° 25′ E longitude. It is bounded in the east by Rayagada district (a portion) of Orissa and Srikakulam district of Andhra Pradesh, Bastar district of Chhattisgarh in the west, Nabarangpur district of Orissa in the north and Malkangiri district of Orissa and Visakhapatnam district of Andhra Pradesh in the south (Fig. 1). The general topography of the area is of broken mountains intercepted by large riverbeds and watercourses. The altitude varies from 500 m near western side to 1600 m on the eastern side with mountain peaks and ridges. Deomali (1672 m) is the highest mountainous peak of Orissa found in this district. Sandy and clay type soil predominate the entire district. The climate of the major portion of the district is influenced by its varied elevation. The minimum and maximum temperature is 13 and 42°C in the month of December and May, respectively. Humidity is generally high especially in the

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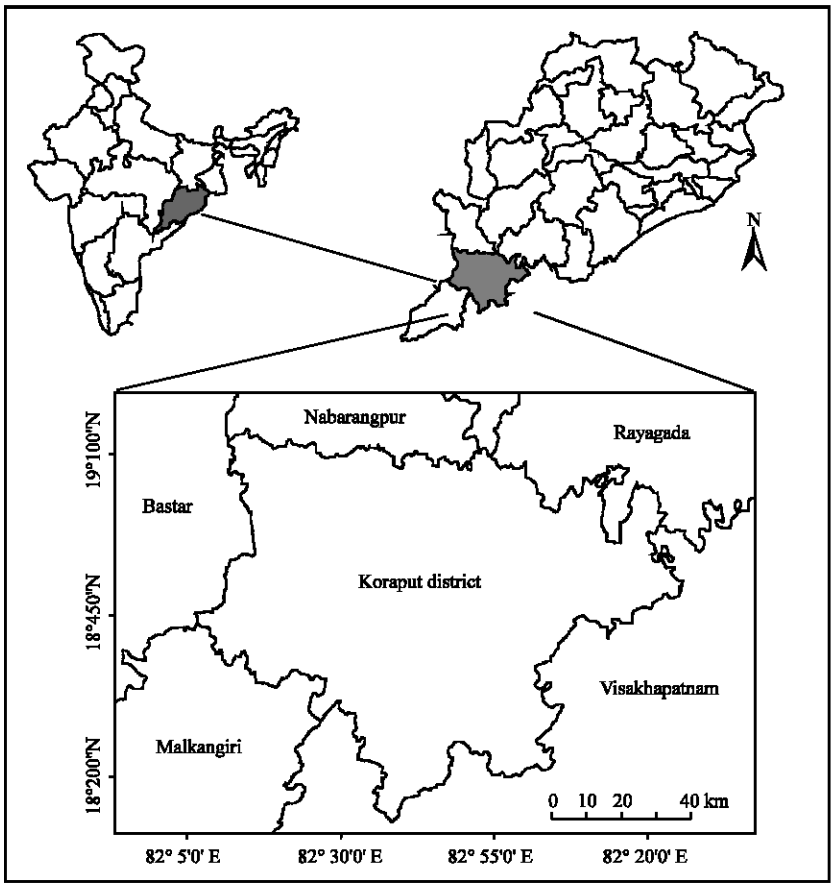

Fig. 1: Study area showing Koraput district, Orissa

monsoon and post monsoon months. It receives about 1500 mm rainfall annually. Major portion of the annual rainfall is received during southwest monsoon between July to September. The district is predominantly a tribal populated district. More than 64% of total population is tribals. The physiography of the district gives a perfect platform for the tribals in sustaining their ethno-cultural identity. Tribal people are mostly inhabited the forest area, depend on the forest resources for their livelihood (food, fodder and medicine). It is homeland of various tribal communities with their sub-tribes, found in different level of development depending upon their assimilation with the so called mainstream or modern communities. The Kondha, Soura, Koya, Bhuyan and Gadaba are the predominant tribes found in the interior forest, where as other sub-tribes like Kotia kondha, Jatapu, Ho and Konda Dora are found in fringe areas of the forest. Very little work has done on the ethno-medico-botany of the district and it is confined to northern portion only. Some sporadic reports on this aspect are available (Das and Misra, 1987, 1988a, b; Dash, 1994; Dash and Misra, 1996). The present study enthnomedicinal is mainly focused on the southern part of the district.

Materials and Methods

Several field trips were carried out from January 2004 to June 2005 in the study area to document the utilization of medicinal plants. The surveys were spread across in different seasons so as to get

Table 1: Ethnomedicinal uses of plants in Koraput district

Botanical name	Family name	Local name	Parts used	Medicinal uses
Acalypha indica L.	Euphorbiaceae	Basuni	Leaves	Leaf paste mixed with common salt used for eczema
Adina cordifolia (Roxb.) Hook.f.ex Brandis	Rubiaceae	Khumba	Bark	Stem bark powder is used to prevent miscarriages
Alangium salvifolium (L.f.) Wangerin	Alanginaceae	Ankul	Bark	Extract of stem bark is given in ordinary fever
Allmania nodiflora (L.) R.Br. ex Wight	Amaranthaceae	Mundia saga	Leaves	Leaf juice taken orally to relieve from stomach pain
Alternanthera pungens Kunth	Amaranthaceae	Khura saga	Leaves	Juice of leaves applied on fore-head for headache
Ammannia baccifera L.	Lythraceae	Ramdauni	Leaves	Leaf paste applied to relieve joint pain
Anisomeles indica (L.) Kuntze	Lamiaceae	Bhutmari	Stem	Paste of stem is mixed with coconut oil and applied over wounds area
Argemone mexicana L.	Papaveraceae	Agara	Leaves	Leaf juice is applied externally to cure ringworm
Aristolochia indica L.	Aristolochiaceae	Iswarmula	Leaves	Leaf paste used externally for eczema
Blepharispermum subsessile DC.	Asteraceae	Rasna jhadi	Root	Root juice is given orally for joint pain
Boerhavia diffusa L.	Nyctaginaceae	Goudapuruni	Root Bark	Root bark paste used for eczema
Cajanus cajan (L.) Millsp.	Fabaceae	Kandul	Leaves	Leaf juice is mixed in honey and given internally as a cure for jaundice
Cassia hirsuta L.	Caesalpiniaceae	Bado chakunda	Root	Water extract of root is given internally to get rid of intestinal worms
Cissampelos pareira L.	Menispermaceae	Akanabindu	Leaves	Leaf is tied over the boils for healing
Corchorus olitorius L.	Tiliaceae	Madhura nalita	Leaves	Leaf juice applied on boils for healing
Curcuma longa L.	Zingiberaceae	Haldi	Rhizome	Dried rhizome powder with water applied on body for skin diseases
Dichrostachys cinerea (L.) Wight and Arn.	Mimosaceae	Koiridyo	Leaves	Leaf juice is taken orally for leucorrhoea
Dioscorea oppositifolia L.	Dioscoreaceaea	Pitli kanda	Rhizome	Paste of rhizome taken internally for stomachache
Euphorbia thymifolia L.	Euphorbiaceae	Sadi-mara	Whole Plant	Extract of whole plant is to cure small pox
Gmelina arborea Roxb.	Verbenaceae	Gumna	Root Bark	Juice of root bark taken internally for piles
Gymnema sylvestre (Retz.) R.Br. ex Schult.	Asclepiadaceae	Gudmari	Leaves	Dried leaves powder taken orally to reduce sugar in blood
Jatropha gossypifolia L.	Euphorbiaceae	Baigoba	Leaves	Leaf paste applied to heal cut wounds
Leucas indica (L.) R.Br. ex Vatke	Lamiaceae	Goyasa	Leaves	Leaf is eaten as vegetable by nursing mothers to act as a galactogogue
Madhuca indica Gmel.	Sapotaceae	Mohul	Flower	Boiled flowers are tied on injured part of body to cure wounds
Millettia extensa (Benth.) Baker	Fabaceae	Gurendi	Root	Root is used as fish poison
Momordica charantia L.	Cucurbitaceae	Kalara	Leaves	Leaf juice is given daily to reduce sugar in the blood
Pergularia daemia (Forssk.) Chiov.	Asclepiadaceae	Hunturi	Leaves	Fresh leaves are boiled with water and the vapour is inhaled for severe headache
Portulaca oleracea L.	Portulacaceae	Puruni saga	Whole Plant	Juice of whole plant with some common salt is given to children to get rid of hookworms
Punica granatum L.	Punicaceae	Dalimba	Fruit	Fruit juice taken orally for relieving stomach pain and
Sansevieria roxburghiana Schult. and Schult.f.	Agavaceae	Murga	Rhizome	Juice of rhizome mixed in water is given on empty stomach
to determine pregnancy	Sapindaceae	Kusum	Bark	Water extract of fresh stem bark is given internally to relieve pain in bone fractures
Schleichera oleosa (Lour.) Oken	Solanaceae	Pajoka	Leaves	Leaf juice taken orally for seven days to get relief from asthma
Solanum torvum Sw.	Combretaceae	Arjun	Bark	Stem bark extract is taken with curd to cure dysentery
Terminalia arjuna (Roxb.ex DC.) Wight and Arn.	Combretaceae	Bahada	Fruit	Fruit powder is kept over night in cold water and the infusion taken orally for cough
Terminalia bellirica (Gaertn.) Roxb.	Combretaceae	Harida	Fruit	Crushed fruits are given orally to cure asthma
Terminalia chebula Retz.	Rutaceae	Tundpora	Leaves	Decoction of leaves given internally for stomachache
Toddalia asiatica (L.) Lam.	Zygophyllaceae	Gokhura	Leaves	Leaf juice is used for jaundice
Tribulus terrestris L.	Cucurbitaceae	Makal	Fruit	Fruit useful in asthma and earache
Trichosanthes tricuspidata Lour.	Rhamnaceae	Janukoli	Root	Root powder taken orally for dysentery
Ziziphus nummularia (Burm.f.) Wight and Arn.				

maximum information. A total of 12 tribal practitioners (vaidyas) were identified, comprising of 8 males and 4 females for collection of data. They had sound knowledge on medicinal plants. The ethnobotanical data were collected through questionnaire, interviews and discussions among the tribal practitioners in their local language. Later, short field visits to the forests were organized with the herbalists to ascertain the correct identity of the plant. Plant specimens collected during the survey were dried, processed and identified with the help of regional floras (Gamble, 1928; Saxena and Brahmam, 1996). The voucher specimens were deposited in the Herbarium of Botany Department (KUH), Kakatiya University, Warangal, Andhra Pradesh. The plants are enumerated alphabetically with botanical names with correct nomenclature, family names, local names, plant part used and the medicinal uses (Table 1).

Results and Discussion

The study reveals that in absence of modern health facility people living in the area depend on plants for medicinal purposes. In this study, 39 plant species belonging to 30 families distributed in 37 genera were recorded (Table 1). These plants were used for curing a total of 23 diseases ranging from simple cuts and wounds to highly female disorders. Out of all plants, 15 were herbs followed by 10 trees, 7 climbers and 7 shrubs. Combretaceae and Euphorbiaceae families had the more number of plants used (3 species each). Leaves were used mostly times in preparation of medicines followed by fruits, roots and stem barks. Stem and flowers were the least used plant parts. Most of the medicinal plants were used singly.

Based on the initial reconnaissance survey and group discussions, it was found that information on the medicinal use of plants mostly confined to elder people. Younger generation is ignorant about the vast medicinal resources available in their surroundings and is more inclined towards the conventional medicines. It was also found that the tribal practitioners are hesitant to disclose their knowledge. They are only teaching to those scholars who have taken oath in front of god. The knowledge has been transferred orally from one generation to another generation with a little bit lost of information at each level. The proper documentation of this traditional knowledge from an area where novel information has been generated will provide recognition to this knowledge and it also open new vista for modern drug discovery for the betterment of the society. Now, people from all over world prefer herbal medicine rather than conventional medicine. Due to recent shift towards herbal medicines the pressures on the resources have increased and the global market is fast expanding. In this alarming situation conservation of medicinal plants is very important, as most of these plants have been reduced to a greater extent. Therefore, immediate steps must be taken for *in situ* and *ex situ* conservation of these taxa and propagation of rare and endangered medicinal plants should be made through seeds as well as through vegetative propagation.

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