



Original Research Article

Ethnomedicines in the Khordha forest division of Khordha District, Odisha, India

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A B S T R A C T

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Based on an ethnopharmacological survey of Khordha Forest Division of Khordha district in Odisha conducted during 2012, the paper presents some 54 contemporary folk recipes comprising 43 taxa of folk medicinal plants used by 'Kondh, Sabra, Naik' tribes of the area, for treatment of various common and chronic diseases and conditions. Botanical name, family in bracket, locality with field book number, local name, Unani name, part(s) used, name of the disease against which used, mode of administration and informant is given for each recipe discussed in the text. The need for their phytochemical and pharmacological investigations in the context of claims reported has been suggested in an effort to discover new drugs of natural origin for many of the diseases for which modern medicine has, thus far, no satisfactory cure.

Introduction

Ethnomedicines have gained new dimensions in the present days through phytochemical researches in India and abroad, as information on medicinal plants and folk drugs recorded during field-work is now being subjected to investigations in the search for new biodynamic compounds of therapeutic value. Based on this rationale, an ethnobotanical survey of Khordha Forest Division of Khordha district in Odisha was undertaken in September 2012 to October, 2012 and first-hand information on folk medicinal

uses of plants for treatment of various disease and conditions was recorded. Khordha district lies between 84⁰ 55' and 86⁰ 50' East longitude and 19⁰ 40' and 20⁰ 25' North latitude. It is bounded by Cuttack district in north, Nayagarh district in west, Puri district in the east and Ganjam district in the south. Khordha district has a geographical area of 2813 sq. kms. The hilly systems of the district are located in Khordha sub-division. Khordha district is situated in the southwest of the state. Also it touches the 'Chilika Lake' in

the south. The specific sites visited include Mangrajpur, Shaktihal, Banpur, Pratap, Pratap, Salia Dam, Dyke Chhak, Kumaripari, Bheruambadi, Kadudibadi, Bhaliapada, Dhuanali, Khariabandho, Jodamdosahi, Badasuda, Kulthodih, Odagaon, Banpur, Manglasahi, Berbera, Barkul, Bhejiput, Langleswar, Gorapalli, Badopalli of Khordha Forest Division. The study presents 54 folklore therapies comprising 43 taxa of medicinal plants prevalent among the inhabitants of the area surveyed. Most of the uses recorded are first-hand or less known. The area had not been investigated exhaustively earlier in this direction, except for some fragmentary reports on medicinal uses of plants (Ali *et al.* 2010; Anonymous 2001, 1995; Ambasta 1994; Behera *et al.* 2008; Chopra *et al.* 1980; Girach *et al.* 2011; Jain 1981, 1991; Jain and Rao 1967; Kirtikar and Basu 1935; Mukesh *et al.* 2010, 2011, Tribedi *et al.* 1982; Yesodharan and Sujana 2007).

The district of Khordha is one of the new districts carved out of the old Puri District in 1993. It houses the state capital. Overall Sex Ratio is highly disadvantageous to female even in 0-6 years and is a matter of concern. Possible reason may be higher rate of male migration to Bhubaneswar city. Similar concern is indicated in the population growth rate which is higher may be again due to migration. On development indicator this district is relatively much better. However, approach road in villages need substantial improvement. Village developments still a matter of concern on many other sectors also.

Khordha is the 6th smallest district in terms of size and 5 biggest in terms of population. Khordha is the most urbanized district in the state having about 42.92

percent of its population living in urban areas whereas about 14.99 percent of state's population live in urban areas. In terms of population per Sq. Km. Khordha district is the most densely populated district in the state. There are only 193 uninhabited villages in the district whereas 8 villages are having a population of more than 5000. The economy of the district is mainly dependent upon cultivation. Out of each 100 workers in the district 30 are engaged in agricultural sector. Banapur police station is having the highest number of villages (222) in the district and Saheednagar police station is having lowest number of villages (24) in the district.

Materials and Methods

An ethnobotanical survey of Khordha Forest Division of Khordha district in Odisha was conducted during September, 2012 to October, 2012 with a view to study the medicinal herbs of the area and also to record the folk-wisdom of the tribals known as 'Kondh'. The data on folk medicinal uses of plants were collected from the herbalists (medicine men) through their direct field interviews, who accompanied the senior author to the field or from the old villagers who have long been prescribing the herbs for treatment of various diseases. Information about the efficacy of the herbs was also recorded. Plant specimens of the present study were identified by the "Flora of Orissa" (Saxena and Brahmam, 1994-1996) and Botany of Bihar and Orissa (Haines, 1921-25). Plants specimens of all folk drugs were collected and voucher herbarium specimens have been prepared and deposited in the herbarium of Survey of Medicinal Plants Units, Regional Research Institute of Unani Medicine, Bhadrak for future references and study.

Results and Discussion

Enumeration of folk medicinal species

Adverting shortly to the scheme of text, the medicinal plants used as folk medicine in the study area are arranged in alphabetical order. Each entry gives the information: Plant's scientific name with family (in bracket), Locality with Filed Book No., Local name(s), Unani name (wherever available), part(s) used, disease and conditions, method of usage and informant.

Achyranthes aspera L. (Amaranthaceae); Mangrajpur-9256; Apamarango; Chirchita; Root; Dental Care; Root is used as tooth stick to strengthen gum. Kondh

Abrus precatorius L. (Fabaceae); Salia Dam-9292; Kaincho; Ghungchi; Fruit; Diarrhoea (VM); ½ fruit is given to animal with fodder to treat diarrhoea. Shri Kusto Chandra Pradhan

Adhatoda zeylanica L. (Acanthaceae); Shaktihal-9265; Basango; Aroosa; Leaf; Post Natal Care, Cough/Cold, Fever; A handful of leaves boiled in 5000 ml water, cooled and filtered. Resultant water is prescribed for taking bath to subside body swelling after delivery. A few flowers fried in Ghee and mixed with desired amount of honey, is given to treat cough/cold. A handful of leaves with pippli (*Piper longum*) is boiled in water and make a decoction. 30 ml of decoction is given twice a day with honey to treat fever. Sabra.

Aerva lanata (L.) Juss. ex Schults. (Amaranthaceae); Kumaripari-9297; Paunsia Sago; Biseri Buti; Root; Diarrhoea; Required quantity of root paste is given with rice water to treat infantile

diarrhoea. Shri Bimba Dhar Pradhan.

Amaranthus spinosus L. (Amaranthaceae); Mangrajpur-9261; Kanta Marish; Chaulai Khadar; Root; Jaundice; A handful of dried roots made into fine powder. 3-5 gm powder is given twice a day with sufficient water to treat jaundice. Kondh.

Amorphophallus paeoniifolius (Dennst.) Nicolson (Araceae); Kadudibadi-9326; Oal; Rhizome; Edible, Filariasis; Rhizome are cooked and eaten as vegetable. Rhizome paste is applied locally on oedematous swelling for 7 days to treat filariasis. Shri Jay Krishna Naik

Andrographis paniculata (Burm.f.) Wall. ex Nees (Acanthaceae); Bheruambadi-9305; Bhunimbo; Kiryat; Leaf; Malarial Fever, Skin Disease, Diabetes; 30 ml leaves decoction is given thrice daily for 5-7 days to treat Malarial Fever. Leaf paste with golmirch (*Piper nigrum*) make a sharbat drunk to treat skin diseases. 50 ml leaves decoction is given with 3 golmirch (*Piper nigrum*) to treat diabetes. Kondh

Argyreia nervosa (Burm.f.) Boj. (Convolvulaceae); Kadudibadi-9319; Mundanoi; Samandersokh; Leaf; Fever; Jada oil applied on leaf and bandage on forehead to treat fever. Shri Jay Krishna Naik.

Asparagus racemosus Willd. (Liliaceae); Bheruambadi-9312; Chhatuary; Satwar; Root; Spermatorrhoea; Powdered root with sugar candy juice is given 20 gm/dose once at bed time to treat Spermatorrhoea (Dhaturogo). Kondh

Averrhoa carambola L. (Averrhoaceae); Shaktihal-9266;

Karmanga; Khamraq; Fruit, Root; Edible, Skin diseases; Fruits are eaten raw when ripe. Root paste is applied locally on skin diseases. Shri Tapan.

Azadirachta indica A. Juss. (Meliaceae); Kulthodih-9353; Nimbo; Neem; Leaf, Twig; Skin Diseases, Dental care; Leaves decoction is used by the local inhabitants to treat kanchokundia (Skin diseases). Twigs are used as tooth stick to strengthen gums. Kondh.

Bridelia retusa (L.) Spreng. (Euphorbiaceae); Kadudibadi-9322; Kassi; Stem bark; Diarrhoea; 10 gm of stem bark paste is given twice daily with sufficient water to check diarrhoea. Shri Jay Krishna Naik

Cardiospermum helicacabum L. (Sapindaceae); Mangrajpur-9258; Bishphutka; Habb-ul-Qilqil; Leaf; Wounds; Leaf paste is applied locally on children head to treat wounds. Kondh

Cassia occidentalis L. (Caesalpiniaceae); Pratap-9275; Kasundra; Kasondi; Root; Eczema; Root paste is applied locally on eczematous patches to treat eczema. Shri Kewal Behera.

Cassytha filiformis L. (Lauraceae); Bheruambadi-9304; Nirmuli; Whole Plant; Loose Motions; A handful of plant made into paste is taken orally in case of loose motions in children. Kondh

Chloroxylon swietiana DC (Rutaceae); Bheruambadi-9311; Bheru; Leaf; Wounds; Leaf paste is applied locally on wounds to expel worms. Kondh

Chromolaena odorata (L.) King. And Rob. (Asteraceae); Dyke Chhak-9293; Pokosunga; Root, Leaf, Plant; Cuts,

animal wounds (VM), Skin diseases; Root paste is applied locally on skin diseases. A handful of leaves boiled in mustard oil, cooled and applied locally on skin infections. Leaf juice is applied locally on fresh cuts to check bleeding. Plant paste is applied locally on wounds of animals for healing. Shri Durjodhan Sethi

Cleistanthus collinus (Roxb.) Benth. ex Hook.f. (Euphorbiaceae); Bheruambadi-9315; Korada; Fruit; Skin diseases; Purified fruits are boiled in mustard oil, cooled and filtered. Resultant medicated oil is applied on scabies and other skin diseases. Shri Pitamber Pradhan

Costus speciosus (Koenig.) Sm. (Zingiberaceae); Banpur 9272; Gai Gendalia; Rhizome; Headache, Giddiness, Animal Diarrhoea; Rhizome made into paste is applied on the forehead to treat headache and get relief from giddiness. Rhizome is chopped and mixed with cattle-feed is given in cases of diarrhoea among domestic animals. Kondh.

Crinum asiaticum L. (Amaryllidaceae); Bhaliapada-9329; Arsa/Sukra; Leaf; Joint Pain; Leaf paste is boiled in jada oil and applied on joints to treat joint pain. Shri Rajiv Behera

Croton bonplandianus Baill (Euphorbiaceae); Kulthodih-9368; Banomircho; Plant Sap; Cuts; Plant sap is applied locally on cuts to check bleeding. Smt. Satyabati Jani

Curculigo orchioides Gaertn. (Hypoxydaceae); Bheruambadi-9318; Talmuli; Musli Siyah; Root; Spermatorrhoea; Root of this species with roots of Satabari (*Asparagus racemosus*) made in to powder and 10 gm of this powder is given with cow's milk twice a

day for one month to treat spermatorrhoea. Kondh

Datura metel L. (Solanaceae); Salia Dam-9282; Dudura Dhoda; Dhatura; Leaf; Boils, Inflammation; Leaf warm with jada oil (*Ricinus communis* L.) and applied locally on boils. Leaf paste warm in jada oil (*Ricinus communis* L.) and applied on affected part of the body to treat inflammation. Shri Laxmidhar

Dillenia indica L. (Dilleniaceae); Shaktihal-9267; Chalta; Flower; Wounds; Flowers powder mixed with coconut oil and applied locally on wounds for healing. Shri Bishnu Sabra.

Dioscorea bulbifera L. (Dioscoreaceae); Kadudibadi-9321; Pita Alu; Tuber; Constipation; 5-10 gm powdered tuber is given once every morning with warm water as laxative to treat constipation. Shri Jay Krishna Naik

Eclipta prostrata (L.) L. (Asteraceae); Banpur-9269; Bhrangraja; Bhangra; Leaf; Cuts, Madness; Crushed leaves are directly applied on fresh cuts to check bleeding. A handful of leaves and fresh pulp of *Aloe vera* (Ghrita kumari) leaves are made into paste with water and applied on forehead to treat madness. Kondh.

Elephantopus scaber L. (Asteraceae); Kadudibadi-9328; Mayurchulia; Whole Plant; Diarrhoea, Dysentery; 5-10 gm root powder is taken two times daily with sufficient water to treat diarrhoeal problems. Plant used as fodder in this area. Shri Gajendra Naik

Erythrina variegata L. (Fabaceae); Bhaliapada-9330; Paladhua; Leaf; Anthelmintic; Leaf juice with required quantity of turmeric is given to children to

expel worms. Shri Rajiv Behera

Ficus racemosa L. (Moraceae); Kulthodih-9365; Dimiri; Gular; Latex, Stem Bark; Spermatorrhoea, Wounds; 5-7 drops of latex is given in the morning on empty stomach to treat spermatorrhoea. Stem bark decoction is used to washing wounds for healing. Shri Sudershan Naik

Gloriosa superba L. (Liliaceae); Pratap-9274; NaNangalia; Muleem; Root; Veterinary Medicine; Root cut into small pieces and given with fodder to treat mums in animals. Shri Kewal Behera.

Glycosmis pentaphylla (Retz.) DC (Rutaceae); Kadudibadi-9320; Chauldhua; Twig; Dental Care; Twigs are employed as tooth brush to check bleeding from gums and strengthening teeth. Shri Jay Krishna Naik

Helicteres isora L. (Sterculiaceae); Salia Dam-9287; Mudi; Marorphali; Fruit; Rickets like complain in infants; A handful of fruits boiled in mustard oil, cooled and filtered. Resultant medicated oil is massaged gently on affected legs of children. The remedy is quite popular in many places of the study area among rural population. Shri Trishul Jena

Ipomoea carnea Jacq. (Convolvulaceae); Mangrajpur-9262; Amari; Behaya; Plant sap; Cuts, Wounds; Plant sap is applied locally on minor cuts to check bleeding and healing wounds. Naranjan Sahoo.

Jatropha gossypifolia L. (Euphorbiaceae); Badasuda-9345; Gabo; Latex; Diarrhoea; 2-3 drops of the latex is given with water to children to check diarrhoea. Kondh

Lantana camara L. (Verbenaceae); Pratap-9280; Nageswar; Leaf; Cuts,

Swelling; Leaf juice is applied locally on cuts to check bleeding. Leaves paste is applied locally on sprain to reduce swelling and pain. Kondh

Martynia annua L. (Martyniaceae); Pratap-9276; Baghnakha; Kalabichua; Leaf; Cuts; Leaves juice are applied locally on cuts to check bleeding. Kondh

Mimosa pudica L. (Mimosaceae); Salia Dam-9301; Lajkoli; Lajjalu; Root; Cold and Fever; Root paste is given in required quantity with honey to treat common cold and fever. Shri Bimba Dhar Pradhan

Nyctanthes arbor-tristis L. (Oleaceae); Kulthodih-9356; Gangaseoli; Harsingar; Leaf; Fever, Cough and Cold; Leaves juice with equal quantity of honey is given twice a day for 4-5 day to treat fever, cough and cold. Shri Prasant Das

Pedilanthus tithymaloides (L.) Poit. (Euphorbiaceae); Odagaon-9377; Khiro Gachho; Latex; Cuts; Latex of is applied locally on cuts to check bleeding and healing wounds. Smt. Arsha Devi

Plumeria rubra L. (Apocynaceae); Salia Dam-9281; Kathchampa; Flower; Swelling; Leaves are boiled in jada (*Ricinus communis*) oil and applied locally on swollen part to reduce swelling. Flowers used in worship of Lord Shiva. Shri Laxmidhar

Scoparia dulcis L. (Scrophulariaceae); Dhuanali-9332; Madhusmita; Leaf; Spermatorrhoea; 100 ml Leaf juice with misri is given every morning on empty stomach for seven days to treat Spermatorrhoea (dhaturogo). Shri Sagar Sahu

Tephrosia purpurea (L.) Pers. (Fabaceae); Salia Dam-9283; Bano Kulthia;

Sarphonka; Root; Stomachache; Root chewed raw for the treatment of stomachache. Shri Trishul Jena

Woodfordia fruticosa (L.) Kurz (Lythraceae); Bheruambadi-9314; Dhai; Gul-e-Dhawa; Flower; Blood dysentery; A handful of dried flowers are made into powder and 5-10 gm of this powder is taken twice daily with sufficient water to check dysentery with bloody stools. Kondh

The intrinsic potential of ethnobotanical knowledge as a key resource for developing new kinds of pharmaceuticals and other chemicals of industrial importance has been increasingly realized. In the present study some traditional therapeutic methods employed by the natives of Khordha Forest Division of Khordha district have been discussed. Out of 160 taxa of medicinal plants collected 43 are used in folk medicine by Kondh, Sabra, Naik etc., suggesting that these plants may cure satisfactorily certain ailments. Although, they do not have as high prestige as modern medicines, these folk drugs are relatively un-expensive and easily available to locals at their door steps. For some problems such as eczema, jaundice, fever, diarrhoea, diabetes, wounds etc. these crude therapeutic methods are recognized as equal or superior to biomedicines; for other diseases there are readily available satisfactory cures; viz. diarrhoea, cold and fever, menstruation problems, wounds, skin diseases, nervous system disorders etc.

The data on folk medicinal uses have been compared with available literature and it is found that many of the uses are already reported (Jain, 1981, 1991). However, their modes of application, part used are

different. Therefore, present study represents contemporary folk uses of medicinal plants of the area investigated. It would, therefore, be worthwhile to subject all these folk drugs to scientific testing in the context of claims reported herein. It is likely through such investigations new drugs of natural origin may be discovered for treatment of many of the disease for which there are no satisfactory cures in modern medicine thus far.

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