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Herbal Remedy for Gynecological Problems In Ethnic Communities of Jharkhand State, India

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ABSTRACT

Plants are known to be associated directly or indirectly with the needs of human since time immemorial. In addition to the basic needs, i.e. food, shelter and clothing, plants are utilized for fodder, fuel, timber, tannins, colors, oils and medicines etc. History reveals that uses of plants as medicine is known in different parts of the world, especially in India there are evidences which suggest its therapeutic role since Rig Veda. There are 32 ethnic communities in Jharkhand, which constitute about 33% of total population. They have their own self-managed traditional system for primary health care (Horopathy). Women are traditionally using herbal medicines for the remedy of different types of gynecological problems. In the present investigation 30 plants species have been reported on the basis of ethno-medicinal information extracted from ethnic communities. All the parts of plants, like root, bark, leaf, flower, fruit and tubers are used as medicines, either preparation from single plant is used as drug or in some cases decoction or paste are made with more than one herb. There is very wide scope for the pharmacological studies of the reported plants in future.

Keywords: Horopathy, Therapeutic, Ethnic communities, Gynecology, Pharmacology

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INTRODUCTION

Globally, about 85% of the traditional medicines used for the primary health care are derived from plants.¹ Traditional medicine is one of the oldest systems used in different parts of the world to treat human diseases and infections mainly through herbal drugs.²⁻⁴ In the field of drug development, ethno-botany provides useful information, thus saving both time and money.⁵ The India is tenth among the plant rich countries of the world and fourth among the Asian countries.⁶ In India, about 2,500 plants species belong to more than 1000 genera are being used in indigenous system of medicine. The majority of the medicinal plants belong to flowering plants representing about 158 families.⁷

The World Health Organization estimated that over 80% of the people in developing countries rely on traditional remedies, most of which include crude plant extracts.⁸ In India almost 95% of the prescriptions are plant based traditional systems; Unani, Ayurveda, Homeopathy and Siddha.⁹

Due to various developmental activities and other human related factors plants in general are under various degrees of threats. The traditional knowledge are gradually dwindling because of the displacement of the local people from their homelands where they were inhabiting for thousands of years and learned about the secrets of nature with their observation only. Their ethno-medicinal knowledge are preserved for generation with practice only and passed to next generation simply by words of mouth. Especially the newly created state, the Jharkhand is the worst affected as many new developmental programmes are under progress, resulting assault and plunder of the biodiversity rich tribal belts. In this perspective, there is an urgent need of exploration, collection, identification and documentation of different types of plants and their use in herbal practices.

The Jharkhand is a nascent state, created only in 2000 and inhabited by large population of ethnic communities and indigenous people. Their life style is primitive very much influenced by customs and cultures they profess. In the state altogether 32 ethnic communities have been reported to reside either in the midst of forest or in remote and primitive villages where they are deprived of all modern amenities, therefore fully dependent on plants and plant produces for their subsistence, livelihood and health care. Interestingly, one-third population of the state is of ethnic community, and also the forest cover is in the same ratio. The richness in diversity of flora and fauna in this state is attributable to sense of belonging of indigenous people with nature and natural resources, and also the congenial edapho-climatic conditions of the Jharkhand State.

Ethnic communities have their very old heritage of indigenous knowledge about herbs and herbal remedies (Horopathy).

In the present investigation plants used in the treatment of gynecological problems, such as menstruation, menorrhagia, leucorrhoea, abortion, miscarriage etc. have been documented from different ethnic communities of the Jharkhand state.

Study area:

The study area is the state of Jharkhand, India which is primarily a tribal dominated state (Figure 1). It was carved out of the southern part of Bihar on 15 November 2000. The Jharkhand shares its border with the states of Bihar to the north, Uttar Pradesh and Chhattisgarh to the west, Odisha to the south, and West Bengal to the east. It has an area of 30,778 sq m (79,710 km²). Jharkhand state has total surface area of 79,714 Sq km including 24 districts, 212 blocks and 32,620 villages with a population density of 338 people per Sq.km The geographical coordinates are 23.35° North and 85.33°E.

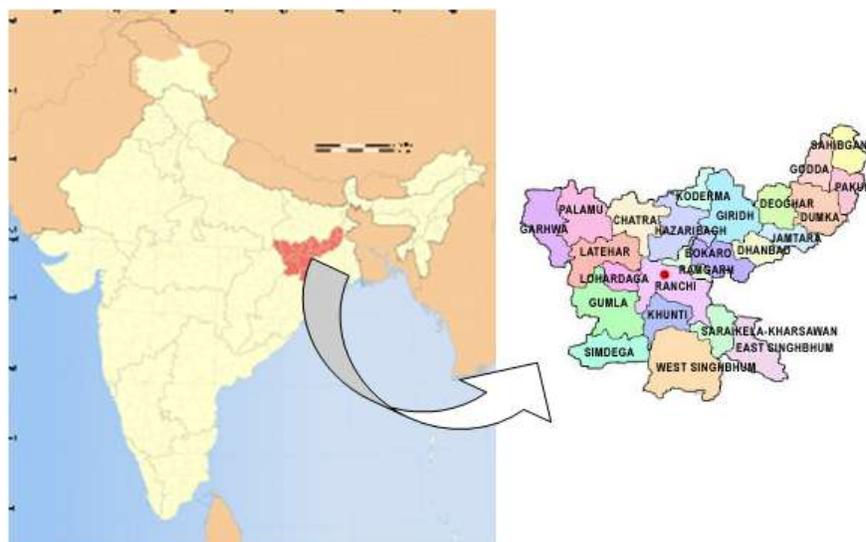


Figure 1. Map of India showing the State of Jharkhand

The Jharkhand state is inhabited by 32 tribal communities viz., Oraon, Munda, Mahli, Baraik, Bhumij, Goriat, Karmali, Bedia, Bhuiya, Lohra, Santhal, Ho, Gond, Kharia, Korba and various indigenous caste such as Mahto, Gonjhu, Ghansi and Teli etc. According to 2001 census Jharkhand is having total population of 26,90,9428, comprising of 26.3% Schedule Tribes, 12% Schedule Caste, 27.9% Backward Classes and rest others.

MATERIALS AND METHODS:

The plant materials of gynecological importance were collected from different places of Jharkhand and identified with their botanical names based on local names. Different books on

Medicinal Plants were consulted for authentication of collected plants.¹⁰⁻¹³ Moreover, the help of taxonomists have also been taken for identification of plants.

For the survey work 25 villages were selected prioritizing the remoteness of villages and also the primitiveness of ethnic population was taken in to consideration. Following the standard procedures ethno-medicinal information were recorded through dialogue with folk healers, traditional birth attendants, mid-wives and patients^{14, 15}. Detailed information regarding therapeutic uses, mode of collection, drug preparation and methods of their administration along with the doses are recorded.

Herbaria were prepared adopting standard practice and preserved in the University Department of Botany, Ranchi University, Ranchi, Jharkhand, India for reference. Plants were photographed *in situ* and herbaria were also photographed. Tools used for routine visit to different places of significance are mainly; questionnaire, map of the study area and camera etc. Plants used in various gynecological disorders were arranged alphabetically, as per their botanical names, together with their families, common names, parts used, mode of preparation and doses are described.

RESULTS AND DISCUSSION:

The present results are outcome of investigation which was carried out continuously for past three years, i.e. from 2008 to 2010. In the course of investigation 70 plants have been collected and identified which are used for different gynecological disorders, however, in the present paper only 30 plant species have been tabulated giving detail information (Table 1). The study reveals that in absence of modern health facility people in the study area depend on plants for medicinal purposes. The practitioners generally diagnose diseases based on symptoms told by the patients as well as based on their personal experience, gained in times, while treating ailments. The methods of preparation fall into four categories; i) Applied as paste, ii) Juice extracted from various plants parts, iii) Decoction of plant parts and iv) Powder made from different plant parts. The plant parts used were root, stem, leaves, flowers, fruits, bark or whole plant. It was found that drug is either prepared from single plant species or more. Some species cure single disorder but majority are reported to cure many related diseases. In some plants only one part is utilized for treatment but in maximum cases multiple parts are being used. Medicines are taken orally directly or mixed with water, milk, honey, black pepper etc. It was observed during study that most of the medicines are administered in empty stomach early in the morning and period of treatment various from 7 to 21 days in the most of cases. Doses were measured generally in

Table 1. Plant species with their parts, mode of preparation/ administration and efficacy against gynecological problems

Sl. No.	Plant description	Plant parts used	Mode of preparation/ administration and remedy
1	<i>Achyranthes aspera</i> L. Family – Amaranthaceae Common name(C.N.) – Chirchiri English Name (E.N.) – Prickly chaff flower	Root, stem	For infertility in younger women 2ml decoction of root and stem is administered orally thrice a day for three months. The decoction of the whole plant is given to the mother for quick and smooth delivery During labor pain plant is uprooted and tied by a string with hand or waist for quick and smooth delivery. Its root about 2 inches with 2.5 <i>Piper nigrum</i> is chewed in leucorrhoea. For abortion root is boiled with molasses and decoction is given like tea to a patient.
2.	<i>Adhatoda vasica</i> Nees Family : Acanthaceae C. N. : Basak, Bakas, E. N.: Malabar nut	Root, Leaf, Bark, Flower	Leaf extract is used at the time of delivery by midwives to stimulates contraction of the uterine muscles to facilitate child birth. During labor pain the plant is uprooted in a single breath and is touched from head to feet in single breath 3 times and then tied in the waist. Within 10-15 minutes child birth takes place. Root is removed after delivery immediately otherwise it can damage the uterus. To warm up the body, decoction of the leaves is given to the mother immediately after delivery. It is used to stop excessive menstrual bleeding and also given in menorrhagia.
3	<i>Amaranthus spinosus</i> Linn. Family - Amaranthaceae. C.N. – Kateli,Chaulai, E.N. – Prickly amaranth	Whole plant	Plant (leaves) is useful in leucorrhoea, menorrhagia and anemia. It is traditionally used as anti-inflammatory and anti- diuretic. Externally, it is used to treat vaginal discharge. Root is used as galactagogue and in treatment of menorrhagia and gonorrhoea.
4.	<i>Asparagus recemosus</i> Willd. Family-Liliaceae C.N. -Satavar, Satmuli E.N. -Asparagus	Tuberous Root	The roots powder boiled with milk and given to the mother after delivery for 15-20 days regularly to increase milk. It is used for regulating menstruation and ovulation. It is used for infertility, frigidity, leucorrhoea and uterine swellings.
5.	<i>Bauhinia verigata</i> Linn. Family – Caesalpineaceae C.N. – Kachanar , Koinar. E .N.– Orchid tree	Bark, Root	•Bark and root are used in leucorrhoea

6.	<i>Boerhavia diffusa</i> Linn. Nyctaginaceae C.N.-Punarnava, KhaparaSag E.N.-Spreading Hogweed	Leaf Root seeds	Leaf decoction is useful in alleviating swelling of limbs during pregnancy. Used in leucorrhoea Seeds and Roots are used to treat gonorrhoea and all internal inflammation and edema.
7.	<i>Bombax ceiba</i> L. Family – Bombacaceae (Malvaceae) C.N. - Semal E.N.- Cotton	Fleshy root, Gum	•One gram root paste of young plant mixed with cow milk (10 gm) is given once a day in the early morning for 7 days to regulate irregular menstruation.
8.	<i>Borassus flabellifer</i> Roxb. Family - Arecaceae C.N. – Tad E. – Palmira palm,	Male plant flower (Balluri)	Decoction of male tree flower (Balluri) is used to restart stopped menstruation Decoction is useful for abortion up to 3 months of conception.
9.	<i>Butea monosperma</i> (Lam) Kuntze Family – Fabaceae C.N. - Palas E. N.– Flame of the forest.	Flower, Bark, Gum	During heavy bleeding period bark decoction is used in empty stomach for 3 cycles only. The leaves are also beneficial in the treatment of leucorrhoea. Decoction of leaves is used as a vaginal douche for this purpose.
10.	<i>Carica papaya</i> Linn. Family : Caricaceae C. N. -Papita E.N.- Papaya	Green fruit	The green papaya fruit is cooked and given for 15 – 20 days two times regularly as galactagogue. Green papaya fruit and seeds are used as contraceptive and abortifacient agent.
11.	<i>Centella asiatica</i> Linn. Family - Umbelliferae C. N. – Beng sag E.N.-Centella	Whole plant	Boiled or cooked sag (stem and leaves) is used against inflammation of hand and leg. It is blood purifier and induces appetite. A decoction of juice from the leaves is used to relieve hypertension.
12.	<i>Curcuma longa</i> Linn. Family - Zinziberaceae C. N. - Haldi E. N.- Turmeric	Rhizomes	<ul style="list-style-type: none"> • One teaspoonful <i>Curcuma longa</i> with one full cup of water is given to mother for abdominal post – partum pains. • It is used as anti-inflammatory agent.

13.	<i>Cynodon dactylon</i> (Linn.) Pers. Family - Poaceae C.N. – Dub grass E.N. - Bermuda grass	Whole plant	This grass is ground to make paste and mixed with rice water, a teaspoonful sugar is added and given once a day during painful menstruation. It is also useful for Menorrhagia. It has anti- microbial properties and used for treatment of urinary tract infections, prostatitis, syphilis and dysentery.
14.	<i>Dolichos biflorus</i> Linn. Family - Fabaceae C.N. - Kulthi E. – Horsegram	Seeds	A decoction of the seed is taken regularly as a soup to promote vaginal discharge after delivery. It can also be taken in leucorrhoea and menstrual disorders. Pulses are prescribed for dissolving and removing kidney and gall bladder stone. Pulses have anti- inflammatory and analgesic properties and are also helpful in hypertension.
15.	<i>Eragrostis cynosuroides</i> Beauv. Family - Poaceae C.N. - Kusha E. – Love grass	Root	In Menorrhagia 2 spoonful root paste is taken with warm milk once a day for 15 days.
16.	<i>Euphorbia hirta</i> Linn. Family - Euphorbiaceae C. N. - Doodhi E. N.- Asthma weed	Whole plant	Its milky latex is known for increasing milk flow in women and also used for other female complaints.
17.	<i>Hibiscus rosa-sinensis</i> Linn. Malvaceae C.N. -Udhul E. N.- China rose	Flower Root Leaves	One bud is taken in empty stomach daily in leucorrhoea till the disease is fully cured. Flowers are layered with gud (molasses) in a glass pot and is placed under sunlight for about one month like pickle. One teaspoonful of the mixture is taken in empty stomach in the morning till leucorrhoea is fully cured. Root decoction is used as anti- fertility and uterotropic activity agent. Leaves are used for dysfunctional uterine bleeding and as an oral contraceptive.
18.	<i>Hygrophila auriculata</i> Schum. Family - Acanthaceae C.N. - Kokilaksha E. – Marsh barbel	Whole plant Root Seeds	Used as anti-inflammatory, hepatic obstruction, pain, urinary infection, and edema. Powder of shade dried plant helps to improve hemoglobin in female patient. Seeds are sedative to gravid uterus and constipation and also given for gonorrhoea. Decoction of root is used as a diuretic in dropsy. Regulates urethral discharge

19.	<i>Jatropha curcas</i> Linn. Family - Euphorbiaceae C. N. - Baghrandi E. N.- Physic nut.	Whole plant	Decoction of leaves is used as a galactagogue. To clean the uterus after delivery 4-5 leaves of <i>Jatropha</i> are roasted with <i>Madhuca</i> kernels, packed in a piece of cloth and stomach is fomented with hot bag for 10 minutes.
20.	<i>Mangifera indica</i> Linn. Family - Anacardiaceae C.N. - Aam E.N.- Mango	Bark Seeds	<ul style="list-style-type: none"> • To stop bleeding from uterus decoction of stem bark with black pepper is given to patient for 21 days in empty stomach. • Seed powder is useful in leucorrhoea and menorrhagia.
21.	<i>Michelia champaca</i> Linn. Family - Magnoliaceae C.N. - Champa E.N.- Golden Champa	Stem, Bark, Flower, Fruit	To cure irregular menstruation cycle 2 gm of dried stem bark mixed with water and taken twice a day for 15 days. Flowers and fruits are useful in gonorrhoea.
22.	<i>Madhuca latifolia</i> (Roxb.) Macbride Sapotaceae H.N.-Mahua E.N.-Indian butter tree	Flower	The fresh liquor of mahua which is called Phuli, 2 spoonfuls is given two times in the empty stomach to warm the body against cold after delivery.
23.	<i>Mimosa pudica</i> Linn. Mimosae C.N.-Lajalu, Chooi-mooi E.N.-Touch – Me- Not	Whole plant including roots	In the case of heavy or excessive bleeding during period its 1 gm powder mixed with ghee and sugar is taken early in the morning for a week for 3 cycles. Decoction of root is used in treatment of dysentery, vaginal and uterine complaints and inflammations.
24.	<i>Moringa oleifera</i> Lam. Family- Moringaceae C.N.-Munga, Sahijan E.N.-Drum Stick	Root, seeds, leaves, pods	Root and stem bark is used in anti fertility activity. Honey is mixed with fresh leaf juice and given to mother for quick and smooth delivery. Leaf juice is used as galactagogue. Vegetable of flower is used in waste pain and body pain; used as anti-inflammatory. <i>Moringa</i> root bark kills ovarian cancer cells due to unique phyto chemicals. <i>Moringa</i> root bark is also used as drug for permanent birth control as it prevents the attachment of fertilized egg to uterine wall.
25.	<i>Nyctanthes arbortristis</i> Linn. Family– C.N. – Harsingar, Parijat	Whole plant	2 spoonful paste mixed with honey is given for 15 days to treat Menorrhagia.

	E.N.-Night Jasmine.		
26.	<i>Oryza sativa</i> Linn. Family - Poaceae C.N. - Chawal E.N. – Rice	Seeds	About 400 ml of the water obtained from rice wash is regularly taken in the morning to relieve vaginitis. It is also beneficial in leucorrhoea.
27.	<i>Phyllanthus niruri</i> Linn. Family – Euphorbiaceae C.N. - Bhuiamla E.N. – Kidney stone breaker	Whole plant	1 tea spoonful paste of whole plant is mixed with water and used for 7-10 days in case of leucorrhoea, menorrhagia and gonorrhoea.
28.	<i>Ricinus communis</i> Linn. Family- Euphorbiaceae C.N.-Redi E.N.-Castor	Leaf, seed oil	In post - partum abdominal pains, the stomach is massaged by castor oil and leaf is place on the stomach and warmed by hot bag. 120 ml castor oil is used to induce labor and stimulate lactation. It is also used as contraceptive when applied inside the vagina.
29.	<i>Tinospora cordifolia</i> (Willd.) Miers Family – Menispermaceae C.N. – Giloi, Gurich E.N. – Tinospora	Leaf, Stem, Root	About 5 gm of leaves and 5 gm of roots are crushed together to get extract. 1 cup of leaf extract and root decoction is taken for a few days during menstruation. • It is used in urinary diseases and as anti -inflammatory agent.
30.	<i>Vitex negundo</i> Linn. Family – Verbenaceae C.N. – Sinduar, Nirgundi E. N.- Five-leaved chaste tree	Root, leaf	For the post- partum bath of woman, the water is boiled with leaves of <i>Vitex negundo</i> separately or with Neem (margosa) and Bamboo leaves because of antifungal, antibacterial and insecticidal properties and helpful to warm up the body. Leaf decoction is used to induce menstruation and to promote milk flow. Leaf decoction has anti-inflammatory effect. Roots are diuretic.

teaspoonful which varies from patient to patient depending on their age, physical health conditions and other factors. They generally do not cultivate the medicinal plants but solely depend on forest based resources. Majority of the plants used in disorders are herbs followed by trees and shrubs. Similarly, roots of the plants are used in most of the treatment. Similar studies were also reported by other workers from different countries on ethnic communities and also in India tribal dominated states show same practice in their traditional systems.¹⁶⁻²³

Information on the medicinal uses of plants now seems to be confined to elder people only, which they acquired from their predecessors through words of mouth as they do not maintain any written account. Especially, old ladies (midwives) are more preferred as herbal practitioners/birth attendants for gynaecological problems because of shyness and other socio-cultural inhibitions. Female complaints mostly addressed by herbal practitioners are menstruation irregularity, menorrhagia, leukorrhoea, vaginal discharge and inflammation. It is interesting to document the power of touch therapy for e.g., root of *Achyranthes aspera* is tied either to arm or waist to intensify labor pain to facilitate the delivery of a child. Another plant showing similar effect is *Adhatoda vasica*. However, after the birth the root immediately requires to be removed otherwise internal organs may forcibly be ejected out causing damage to patient. Some of the plants are reported to function as galactagogue (*Amaranthus spinosus*, *Carica papaya*, *Euphorbia hirta* and *Michelia champaca*). The plants used for menstruation disorder are *Bombax ceiba*, *Borassus flabellifer*, *Cynodon dactylon*, *Dolichos biflorus* and *Mimosa pudica*. The plants used for leucorrhoea are *Bauhinia variegata*, *Hibiscus rosa -sinensis*, *Mangifera indica* and *Oryza sativa*. All these plants are reported to show multipurpose medicinal properties.

Besides gynaecological disorders, these plants species are traditionally used to treat other venereal diseases like abnormal discharges of semen, seminal weakness, impotency (*Asparagus racemosus*), gonorrhoea (*Amaranthus spinosus*, *Boerhavia diffusa*, *Phyllanthus niruri* and *Spondias pinnata*); *Cynadon dactylon* is widely used for syphilis and urinary tract infection.

A plant (or closely related species of the same genus), which is used in geographically or temporally distinct areas in the treatment of similar illnesses, increases the likelihood that the plant is active against the illness.

CONCLUSION:

The local inhabitants have strong faith in their traditional system of medicines for different diseases in general and especially for gynaecological disorders women are entirely dependent upon their indigenous system because of their ethnic customs and cultures and also because of

lack of modern medical facilities. The collection, identification and ethno-medicinal documentation on plant resources are inevitable steps in the present scenario of IPR and also for bio-prospecting. In order to understand the therapeutic potentials of traditional medicines there is a need for phyto-chemical, pharmacological and clinical researches.

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