

Plants used in the treatment of joint diseases (rheumatism, arthritis, gout and lumbago) in Mayurbhanj district of Odisha, India

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Abstract: During the ethnobotanical survey of Mayurbhanj district about 380 uses of plants have been recorded for various purposes. Of these, 23 plants belonging to 22 genera and 18 families are being used in the treatment of joint diseases (rheumatism, arthritis, gout and lumbago) by the tribal and non-tribal people of the district. These plants are arranged alphabetically with their family, local name(s), locality (ies), and method of preparation and mode of uses for the treatment of rheumatism with collection number(s). [Report and Opinion 2010;2(9):22-26]. (ISSN: 1553-9873).

Keywords: Joint diseases; Rheumatism; Arthritis; Gout; Lumbago; Mayurbhanj district, Odisha.

Introduction:

Mayurbhanj is the largest district of the Odisha (erstwhile Orissa) state, extending over an area of 10,418 sq. km. It lies between 21° 17' and 22° 34' N Latitudes, and between 85° 40', and 87° 10' E Longitudes. The district is bounded on the north by Singhbhum, West Singhbhum and Saraikela districts of Jharkhand and Midnapur district of West Bengal; on the south by Keonjhar and Balasore districts of Odisha; on the east by Midnapur and Balasore districts and on the west by the West Singhbhum district of Jharkhand and Keonjhar of Odisha. The total area of the forest cover is 4392.13 sq. km in the district. It has the rocky hills and virgin forests and the most prominent among these is the Simlipal Biosphere Reserve (SBR). SBR is situated in the centre of the district with most luxuriant forest and rich in medicinal plant resources. There are 46 tribal groups are inhabited in this district which is 64.86% of the total population of the district. The total population of the scheduled tribe is 12, 58,495 (According to 2001 census). Tribal people mostly inhabit in and around the deep forest area, and depend on the forest resources for their livelihood. Some of them are resides less accessible areas of the district and lead a primitive life. Each tribe has its ancient culture and traditional doctrine of utilization and conservation of plant resources. Only the medicine man (*Vaidya*, *Kaviraj*), old men and women have better knowledge about the traditional uses of their surrounding vegetation.

During the ethnobotanical survey of the district about 380 ethnobotanical informations were collected. Of these, 15 plants are being used for the treatment of rheumatism, arthritis, gout, and lumbago by the tribal and rural people of the district. These diseases are kept under the heading joint diseases

according to 'Dictionary of Indian folk medicine and Ethnobotany' by Jain (1991). Rheumatism commonly known as 'Vat', 'Gathia', 'Ardhang Vat' in Hindi as well as *in Odiya*. In general, rheumatism refers to various painful medical conditions, discomfort and disability, which affects bones, joints, muscles, tendons, nerves etc. The term 'rheumatism' is not frequently used in current medical text, but is more often found in historical medical text. Rheumatism is not a single disease. It pertains to a whole range of conditions, all of which cause pain. Rheumatism is more common among the middle aged and elderly people. The exact cause of most forms of rheumatism is not known. Exposure to wet and cold may aggravate the pain. Arthritis, which literally means joint inflammation, is just part of the rheumatic diseases. Arthritis primarily involves joint pains, joint stiffness, joint inflammation and joint damage. There are many common types of arthritis viz. rheumatoid arthritis, osteoarthritis, juvenile arthritis, psoriatic arthritis, reactive arthritis, infectious arthritis, gout and pseudo gout.

Gout is a medical condition usually characterized by recurrent attacks of acute inflammatory arthritis—a red, tender, hot, swollen joints. It is caused by elevated levels of uric acid in the blood, which crystallize and are deposited in joints, tendons and surrounding tissues. Other joints such as the heels, knees, wrists and fingers may also be affected. Other symptoms that may occur along with the joint pain include fatigue and a high fever. In general Gout is a disease that results from an overload of uric acid in the body. Lumbago is the term used to describe general lower back pain. The back pain can come on suddenly after lifting things, or gradually through overuse such as repetitive movements, or even for no obvious reason. Pain may be constant and ache or

may be sharper on certain movements/positions and stiffness in the back especially in the mornings.

Rheumatism, arthritis, gout and lumbago are common in the area and local people possess good knowledge about the diagnosis of disease and their treatment. If not treated properly in the initial stages, joint diseases may become chronic. Therefore, the local medicine man used various types of herbs, shrubs and trees available in their surrounding for the treatment of joint diseases. The medicines are prescribed only after proper checkup the symptoms and stage of the diseases by the medicine man. Some earlier workers like Bal (1942), Yoganarsimhan & Dutta (1972), Saxena & Datta (1975), Mudgal & Pal (1980), Saxena *et al.* (1981), Saxena & Brahmam (1989), Sarkar *et al.* (1999), Pandey & Rout (2001, 2006), Pandey *et al.* (2002), Behera (2003, 2006), Rout (2005, 2007), Kumar *et al.* (2006), Behera *et al.* (2008, 2008) and Rout *et al.* (2009) have reported work carried out on the ethnobotany of the district. However, no attention has yet been given on the plants used particularly in the treatment of rheumatism, arthritis, gout and lumbago.

Material and Methods

The present work is the outcome of extensive survey of Mayurbhanj district undertaken during 2007 and 2008. Field survey have been undertaken in 58 remote tribal villages and forests areas among Ho, Munda, Gond (Nayak), Mahanto, Kolho Santhal (Majhi), Kol (Kolho), Ho, Bhumij, Bhuyan, Kumhar, Bathudi, Lodha and Kharia tribes in Udala, Karanjia, Rairangpur and Baripada sub- division of the district. Old and experienced men, women, and medicine men (*Vaidya, Kaviraj, Guni*) were interviewed for the first hand information on ethnomedicinal uses of the plants. The informers were also taken to forest for collection of voucher specimens. Repeated and cross queries were done to confirmation and verification of the information. After identification and verification from Central National Herbarium (CAL), these voucher specimens have been deposited in Ethnobotanical Herbarium of Central Botanical Laboratory, Howrah.

Results and Enumeration

In the enumeration, the plant species have been arranged alphabetically for easy reference with their family in parentheses, local name(s) followed by locality (ies) and method of preparation and mode of uses with collection number(s).

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

Local Names- Bhuin Neem Kari Bahu Kalamegh Kalibahu

Localities- Ramtirtha Badam Pahar Hathikot
Roots are pasted with the roots of *Premna herbacea* and applied externally on rheumatic and gout affected parts of the body. It is also pasted with soaked rice and made half baked chapattis and taken internally for one week for quick recovery. CBL-11770.

Calotropis procera (Aiton.f.) Dryand.
(Asclepiadaceae),

Local Names- Arakh Sweto Arkho

Localities- Gurguria Badam Pahar Manchabanda Hathikot

Leaves are ground with the leaves of *Ricinus cummunis*, *Datura metel* and alum (after exude out water by heating on hot iron) in equal quantity and made pills. Each pill (3 gms) is given in the morning and evening with hot water for 15-20 days in the treatment of rheumatism. Leaves are coated with mustard oil and slightly warmed and tied as bandage on the paining joint of the body. CBL-11801.

Celastrus paniculatus Willd. (Celastraceae)

Local Names- Pingu Kujri Malkangini Malkagni Grism Sundari Kujari

Localities- Beldihi Road Lipighutu Manchabanda Divyasingh Nagar

The Seed oil is extracted and applied externally to keep body warmth in the winter season. It is also applied to relieve pain and proper circulation of blood in the body. Seed oil is massaged on the part affected by gout and rheumatism up to the complete cure. CBL-19652.

Crotalaria prostrata Rottler (Fabaceae)

Local Name- Jhumka

Localities- Sundivilla Ramatirtha

Plants are pasted and applied externally on rheumatic pains for 30 days. CBL-11704.

Curcuma amada Roxb. (Zingiberaceae)

Local Names- Amba Ada Amoda

Locality- Manchabanda

Rhizomes are pasted with bulbs of *Urginea indica* and mixed with hot oil and applied 2-3 times daily for 5 days on joint pains and half portion gout. CBL-19681.

Curcuma caesia Roxb. (Zingiberaceae)

Local Name- Krishna Haldi

Locality- Manchabanda

Rhizomes are cooked with mustard oil or sesame oil and the prepared paste is applied externally on rheumatism and paining part of the body. CBL-19625.

Dalbergia sissoo Roxb. (Fabaceae)

Local Name- Sisu

Localities- Ramatirtha Sundivilla Hathikot
Stem bark is pasted and applied externally on the waist for 15 days to cure lumbago.
CBL-11749.

Elephantopus scaber L. (Asteraceae)

Local Names- Mejo-Jhuti Mayurchuda Morchuda
Mayur-Jhuti Brahma-Dandi
Localities- Ramatirtha Manchabanda Devkund
Bhurudbani
Leaves are boiled with oil of *Schleichera oleosa* and the prepared paste is applied externally on gout affected part of the body. CBL-19674.

Gloriosa superba L. (Liliaceae)

Local Names- Bandriya Phool Nahnugudia
Islagudia Orga Baha Kalihari Agnishika Jhagdayee
Localities- Ramatirtha Gurguria Jamda Balia Patha
Manchabanda
Rhizomes are pasted along with garlic and onion and then boiled in mustard oil until it becomes foamless. The prepared lotion is used for massage on the body for 4-5 day for the treatment of rheumatism and arthritis. CBL-11722.

Hygrophilla auriculata (Schum.) Heine
(Acanthaceae)

Local Name- Dangrakata Jamun
Localities- Sundivilla Badam Pahar
Leaf paste is applied externally on rheumatic affected part of the body for two weeks.
CBL-11793.

Kaempferia galanga L. (Zingiberaceae)

Local Names- Saparkachu Bada Sarpunkha
Locality- Manchabanda
Tubers are pasted with water and applied externally on paining parts of the joints. CBL-19680.

Leea macrophylla DC. (Leeaceae)

Local Names- Hathikana Hathkan
Locality- Ramatirtha
Fresh roots are pasted with water and applied externally on waist in the treatment of lumbago.
CBL-11777.

Morinda tinctoria Roxb. (Rubiaceae)

Local Names- Chayalee Chaily
Localities- Ramatirtha Sundivilla
Stem bark is pasted with water and applied locally on the paining part of the joints of domestic animals as well as human beings. CBL-11751.

Ocimum basilicum L. (Lamiaceae)

Local Names- Ban Tulsi Tunag Tulsi

Localities- Sundivilla Badam Pahar Manchabanda
All parts including seeds are boiled with mustard oil and the prepared lotion is applied on joint pain for two to four days. CBL-19645

Paederia foetida L. syn. *P. scandens* (Lour.) Merr.
(Rubiaceae)

Local Names- Gandhali Gandhadi
Localities- Ramatirtha Manchabanda Karatbasa
Bhudbani
Leaf paste is applied externally on rheumatic parts of the body until the complete cure.11787.
Leaves are cooked with rice and taken one or two days in the treatment of rheumatism and gout. Plant extract is also taken internally for 8-10 days in joint pain. CBL-19677.

Polyalthia longifolia (Sonner) Thwaites
(Annonaceae)

Local Name- Devdaru
Locality- Bhurudbani
Stem bark is dried, powdered and given orally in the treatment of gout for 7 days. 19789.

Pterospermum heyneanum Wall. (Sterculiaceae)

Local Name- Barahakani
Locality- Devkund forest
Flowers/ fruits or stem bark is pasted with water and the prepared paste is applied on gout-affected parts of the body for 3-4 days. CBL-19764.

Schleichera oleosa (Lour.) Oken (Sapindaceae)

Local Names- Kusum Baru Pagada
Localities- Sikurihati Hathikot
A piece of garlic and ginger is soaked in seed oil (100 gms) of the plant for 7 days. This oil is used to massage on the body of patient suffering from rheumatism and gout till cure.
CBL-11865.

Sida rhombifolia L. (Malvaceae)

Local Name- Bazramuli
Locality- Sundivilla
Roots are pasted with water and applied on the paining joints of human beings. CBL-11819.

Terminalia bellerica (Gaertn.) Roxb. (Combretaceae)

Local Names- Baheda Robl
Localities- Ramatirtha Gurguria Hathikot
The fruits are dried and powdered with fruits of *Terminalia chebula* and *Embelica officinalis* and taken for three weeks in the treatment of lumbago.
CBL-19737.

Turnera ulmifolia L. (Turneraceae)

Local Name- Loha Jhad

Locality- Manchabandha

Leaves are pasted with mustard oil and applied externally on the waist pain. CBL-19754.

Viscum articulatum Burm.f. (Loranthaceae)

Local Names- Mandirika-Jhada Kathkamjanga Kakadagod

Localities- Nebda Kosigodia

Whole plant is grounded with water and the paste is applied on the part affected by gout for two days. CBL-19796.

Vitex negundo L. (Vitaceae)

Local Names- Baigunia Sinduri Baigana Sinduwar Localities- Ramatirtha Gurguria Manchabanda Karatbasa

Dried leaves are roasted in iron bowl (*Karahi*) and prepared powder. It is put inside a piece of cloths and tied over the knee in the treatment of rheumatism and gout 3-4 times for 2-3 days. Tender leaves (20 gms) is pounded with black pepper (10 gms) and made pills (gram seed size). Three pills are taken orally daily for 4-5 days in the treatment of joint pain. CBL-11728.

Roots are collected on Friday/ *Sankranti*/ Full moon and washed and shade dried. It is grounded with honey and put in an earthen vessel (*Handia*). This vessel is kept under the heap of paddy seeds for 31 days. Pills (8-10 gms) are made after proper mixing, and one pill per day is given in the treatment of rheumatism, gout, and other joint pain for 41 days. The treatment can be continued up to one year for complete cure of the diseases. CBL-19691.

Conclusion

During the course of the study it is observed that the tribal people of the district are shy and conservative in nature so they do not want to share their age-old traditional knowledge with other people. Moreover, the existing knowledge on traditional uses of plants are on fast declining because lack of interest of local youth to learn the traditional knowledge from the old herbal healer. It is also felt that the valuable and time-tested knowledge on the medicinal uses of plants are also disappearing due to modernization, destruction of forests, urbanization, industrialization, etc. Scientific investigations through the evaluation of plants for their biological activity and isolation of active constituents responsible for their medicinal properties for joint diseases like rheumatism, arthritis, gout and lumbago need to be carried out in various pharmaceutical industries and National laboratories which will give a lead to develop new natural drug molecules so as to reach the benefit of research for the welfare of human beings.

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