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Plants used by kamar, gond and halba tribe of Dhamtari district of Chhattisgarh for relief of sickle cell disease

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Abstract

In Chhattisgarh state sickle cell disease is reported in many tribal communities. Some of these tribes reside in Jawwara, Dugali, Nagari, Sihawa, which are the remote forest areas of Dhamtari. They totally dependent on forest and forest produce for their livelihood and ailments. Gond is the dominant tribe of C.G. as well as of India, Halba is an advance tribe and Kamar tribe is declared as one of the most primitive tribe of India in sixth five year plan. During Ethnobotanical survey it was observed that for cure ailments they used their traditional herbal medicines and use wild vegetables fruits and foods such as under ground rhizome of *Curcuma angustifolia* (Tikhur) fresh tuberous roots of *Abelmoschus crinitus* (Dotokand) flowers of *Indigofera cassoides* (Ghirgholi) and boiled seeds of *Dolichos biflorus* (Kulthi), unriped fruits of *Carica papaya* (Papita) and *Musa paradisica* (Kela) to improve their general health conditions. In traditional herbal medicines the whole plants as decoction of *Andrographis paniculata.* (Bhuineem) dried roots of *Scoparia dulcies* boiled, tubers of *Dioscorea* sps, dried powder of *Chlorophytum tuberosum* (Safed Musli) are used for general health problems. In the present study 20 sickle cell homozygous patients (identified during screening process of sickle cell project coordinated by Department of Biochemistry. Pt. Jawaharlal Nehru Memorial Medical College. Raipur, C.G.), are taken under consideration to check the level of fetal haemoglobin and haemoglobin after giving traditional herbal treatment by traditional medicine man for further six months because most of the health problems are managed by local traditional healers. After the stipulated time the fetal hemoglobin and hemoglobin status will be seen so as to see the role of traditional herbs taken by the tribal people.

Keywords: Chhattisgarh, Kamar, Gond, Halba, Primitive

INTRODUCTION

In Chhattisgarh state sickle cell disease is reported in many tribal communities. Some of these tribes reside in Jawwara, Dugali, Nagari, Sihawa, which are the remote forest areas of Dhamtari. They totally dependent on forest and forest produce for their livelihood and ailments. Gond is the dominant tribe of C.G. as well as of India, Halba is an advanced tribe and Kamar tribe is declared as one of the most primitive tribe of India in sixth five year plan. During the ethnobotnical survey and survey of Sickle cell project many sickle cell anemic patients are identified belong to Gond, Halba and Kamar Tribes in Dhamtari District.

Some important studies on traditional and medicinal of plant by tribal communities are by

Oommachan M. & Masih S.K. (1987), Joshi, S.G. (2000), Jain, S.K., Singh, B.K. and Arvind Saklani (1989), Okpuzor, J. Adebesin, O. Ogbunugafor, H., Amadi, I. (2008), Thomas KD, Ajani B. (1987).

MATERIAL AND METHOD

Ethnobotanical and sickle cell survey were conducted in the forest & revenue villages of Dugli, Jabarra, Kharka, Singhpur and Nagri area of Dhamtari. The plant samples were identified with the help of published literature. Some Photographs were also taken during the field survey of the plants, plant parts, tribes, their life style and non wood forest produce of different forests. Personal interviews were taken with knowledgeable persons and village medicine man.

Observation and Result

During Ethnobotanical survey it was observed that for cure ailments they used 9 plants as traditional herbal medicines and use18 plants as wild vegetables fruits and foods such as under ground rhizome of *Curcuma angustifolia* (Tikhur) fresh tuberous roots of *Abelmoschus crinitus* (Dotokand) flowers of *Indigofera cassoides* (ghirgholi) and boiled seeds of *Atylosia scarabaeoides* (vankulthi), unriped fruits of *Carica papaya* (Papita) and *Musa paradisica* (Kela),kand of different *Dioscorea* Sps ,rhizome of *Curcuma angustifolia* (tikhur)& gel of leaves of *Aloe vera*(ghritkumari) to improve their general health conditions. In traditional herbal medicines the whole plants as decoction of *Andrographis paniculata.* (bhuineem) dried roots of *Scoparia dulcies (vishnujadi)* boiled , leaves of *Azadirachta indica* (neem)dried powder of *Chlorophytum tuberosum* (safed musli used for general health problems & anemia .

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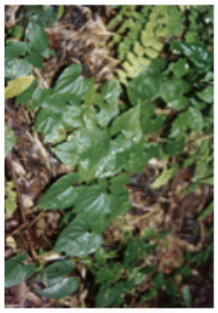
Table 1. **Plants used as food**

Botanical Name	Vernacular Name	Family	Habit	Part Used
Abelmoschus crinitus Wall	Dokrakand / Dotokand	Malvaceae	S	Fresh Tuberous Root
Aegle marmelos Corrce	Bel	Rutaceae	T	Ripe dried Fruit
Aloe vera L	Ghritkumari	Liliaceae	H	Leaf gel
Atylosia scarabaeoides Benth.	Bankulthi	Leguminosae	C	Seed are eaten for its nutritive value
Bombax malabricum L.	Semal	Bombacaceae	T	Powdered root with milk
Carica papaya L.	Papita	Cariceae	T	Fruits
Chlorophytum tuberosum Baker	Safed musli	Liliaceae	H	Tuberous roots
Costus speciosus L.	Keokand	Zingiberaceae	H	Dried powder of rhizome mixed with hot milk and sugar,
Curcuma angustifolia L	Tikhur	Zingiberaceae	H	Powder of dried rhizome
Curcuma pseudomontana Grah.	Ganjikand	Zingiberaceae	H	Rhizome
Discorea hispida Deinst.	Baichandi	Dioscoreaceae	C	Chips of tuber and boiled tuber
D. bulbifera L.	Dangkanda, peeth Kanda	Dioscoreaceae	C	Boiled fresh tubers
Emblica officinalis Gaertn.	amla	euphorbiaceae	T	Fruits
Indigofera cassioidis Rottl	Ghirgholi	Leguminosae	S	Fresh flowers are cooked as vegetable and eat along with staple food.
Melothria heterophylla Cogn.	Vankundru	Cucurbitaceae	H	Tender fruit is eaten
Moringa olifera Lamk	Munaga	Moringaceae	T	Leaves & fruits
Psoralea corylifolia L	Babchi	Leguminosae	H	Leaf paste externally on infected spots
Raphanus sativus L	Muli	Cruciferae	H	Juice of leaf and root.
Rivea hypocrateriformis Choiesy	Lirla	Convolvulaceae	C	Fresh tender leaf is eaten as vegetable

Some important plants are

Aloe vera (Ghritkumari)

Andrographis paniculata (Bhuineem)



Dioscorea Sps.

Chlorophytum tuberosum (Safed Musli)

Powder of *Curcuma angustifolia* (Tikhur)

Table 2. Plants used as traditional medicine

Botanical Name	Vernacular Name	Family	Habit	Part Used
Ampelocissus latifolia Roxb.	Mushulaah	Vitaceae	C	Tuberous
Andrographic paniculata Wall	Karat/ Bhuineem/ Kaalmegh	Acanthaceae	H	Decoction of whole plant.
Asparagus racemosus (Willd)	Satavar, Dashmool	Liliaceae	S	Dried powder of Tuberus roots with milk
Azadirachta indica A. Juss	Neem	Meliaceae	T	Leaves
Boerhaavia diffusa L.	Punarnava	Nyctaginaceae	H	Roots
Flemengia nana Roxb.	Teen panna	Leguminosae	S	Root is powdered together with tubers of *Chlorophytum tubrosum* (Safed musli) and given internally for its aphrodisiac property and as tonic.
Phyllanthus debilis Willd	Bhuiamla	Euphorbiaceae	H	Leaf juice orally
Sphaeranthus indicus L.	Gorakhmundi	Compositeae	H	Globose, Flowering head dried powdered and drink with milk
Scoparia dulcis L.	Visnujadi	Scrophulariaceae	H	Root Paste on affected part

H= Herb; C= Climber; S= Shrub; T= Tree

DISCUSSION

In the present study 20 sickle cell homozygous patients (identified during screening process of sickle cell project coordinated by Department of Biochemistry. Pt. Jawaharlal Nehru Memorial Medical College. Raipur, C.G.), are taken under consideration to check the level of fetal haemoglobin and haemoglobin after giving traditional herbal treatment by traditional medicine man for further six months because most of the health problems are managed by local traditional healers. After the stipulated time the fetal haemoglobin and haemoglobin status will be seen so as to see the role of traditional herbs taken by the tribal people.

REFERENCES

[1] Oommachan M. & Masih S.K. 1987. -Multiferous uses of plants by tribals of M.P.

[2] Joshi, S.G. 2000. Medicinal Plants, Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi, India.

[3] Jain, S.K., Singh, B.K. and Arvind Saklani 1989. Some Interesting Medicinal Plants known among several tribal societies of India. *Ethnobotany:* 89-100.

[4] Okpuzor, J. Adebesin, O. Ogbunugafor, H., Amadi, I. 2008. A Potential of Medicinal Plant in Sickle Cell Disease Control: A Review, *International of Journal of Biomedical and Health Sciences.* Vol.IV No. 2 June 30 Nigeria.

[5] Thomas KD, Ajani B. 1987. Antisickling agent in an extract of unripe pawpaw fruit (*Carica papaya*); *Transactions Royal Soc. Trop Med & Hyg. 81*:510-511