Medicinal uses of plants by tribal medicine men of Nandurbar district in Maharashtra

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Abstract

The tribals of Nandurbar district have their own system of herbal medicine. Many of their herbal preparations for various ailments are different from Ayurvedic and Unani system of medicine. The paper provides some interesting therapeutic uses of plants ranging from emetic to anti-diabetic. The knowledge system of Nandurbar tribes in herbal medicine shall be useful for phytochemists and pharmacologists for further exploration.

Keywords : Ethnobotany, Tribal medicine, Medicinal plants, Nandurbar, Maharashtra.

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Introduction

Phytochemists and pharmacologists from all over the world obtained several patents for herbal drugs developed on the basis of the indigenous knowledge systems of different ethnic groups. Many countries rich in traditional medicinal knowledge have been conducting ethnobotanical survey of medicinal plants. The ethnobotanical research still plays its evident scientific role in stimulating further phytochemical and pharmacological studies[1]. In India Jain[2], Pal and Jain[3] and Agarkar[4] have done some outstanding documentation work on medicinal plants. Owing to the vast area of the country, it becomes difficult for the researchers to reach its remotest parts such as Nandurbar district which is a newly constituted tribal district in the state of Maharashtra (Fig. 1). Two of its six talukas (small provinces) are completely located on Satpura hill ranges and 80% of the population is tribal. Recently, some workers made ethnobotanical observations on medicinal plants of this district[5, 6] but still there is need to discuss details of application methods. Hence, the ailment and preparation of its medicine by tribal medicine men are given in the present paper.

Dhadgaon in the Nandurbar district is dominated by *Pawra* tribe while Navapur and Akkalkuwa talukas have more population of *Bhil* and *Konkni* tribes. The *Pawras* are believed to be descendants of Rajputs as their ancestors have migrated to this region from Rajasthan about 400 years ago. They are highly traditional and progressive also and known for their ferocious and principled life style. On the contrary *Bhil* and *Konkni* tribes are not so ardent followers of traditions, neither they are progressive minded. They are mild and follow easygoing life style; *Konknies* came to Satpura hills from South West region of India.

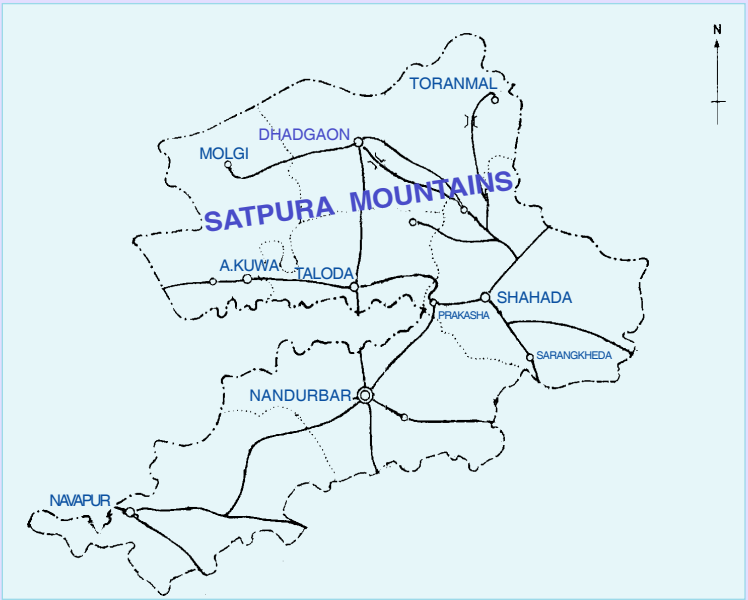

Fig. 1 : Nandurbar district of Maharashtra state

Methodology

The tribal villages in Dhadgaon, Akkalkuwa and Taloda talukas of the district were visited frequently during the period 2001-2003. The tribal medicine men were interviewed and the samples of the medicines were collected. These people were taken to forests to locate the plants in natural habitat for their correct identification. Frequent meetings were also conducted to cross check the uses. Most of the medicinal preparations of these tribals matched with those mentioned in Ayurveda and those medicinal preparations which seemed truly new are reported here. More than one medicine is used for same diseases. Due to this, the number of preparations is more than the number of ailments. The botanical, local and family names along with herbarium specimen number and mode of administration of medicine are given in Table 1. Herbarium specimens of the collected plants were prepared and deposited in the department of botany, P. S. G. V. P. Mandal's Arts, Science and Commerce College, Shahada, Dist. Nandurbar. Figure 1 shows the map of Nandurbar district. The flora of this region[7-9] were referred for identification of the plants.

Results & Discussion

The preparations of medicine for 26 ailments involving 36 plants are presented in Table-1.

Table 1 : Plants used medicinally by the Nandurbar tribal people

Ailment	Botanical/Family, local name (Herbarium specimen No.)	Preparation of medicine	Mode of administration of medicine
Epilepsy	***Commelina benghalensis* Linn.** *Commelinaceae*, *Mothi deni* (HM E-105)	20 g powder of roots is mixed with equal amount of jaggary and small sized pills are prepared	Two pills in a day one in the morning and one in the evening for 6-7 days in case of adults and one pill in a day in case of children and women
Psychosomatic disorders	i) ***Ensete superbum* (Roxb.)Cheesm** *Musaceae*, *Jangli keli* (HM E-106)	Nine seeds are powdered every time	Powder of seeds is given early in the morning for 9 days
	ii) ***Cassine albens* (Retz.) Kosterm.** *Celastraceae*, *Bhutekes* (HM E-107)	4-5cm piece of bark is crushed and soaked in a cup of water over night or 4-5 hours a day	This cup of water is given as a single dose every day for 9 days
	iii) ***Curcuma inodora* Blatt.** *Zingiberaceae*, *Vedi halad* (HM E-108)	A small piece of rhizome is rubbed on stone or soaked in a cup of water for 4-5 hours	This cup of water is administered once a day for 2-3 days
Gynaecological disorders: a) Leucorrhoea	i) ***Curculigo orchioides* Gaertn.** *Hypoxidaceae*, *Kali musali* (HM E-109)	5-7 cm of tuber is dried and powdered	Powdered tuber is administered with a cup of milk twice a day for 2 days
	ii) ***Bombax ceiba* Linn.** *Bombacaceae*, *Sawari* (HM E-110)	4-5 cm bark is ground to powder every time	Bark powder is mixed in a cup of water and administered twice a day for 7 days
b) Menorrhagia	i) ***Tinospora cordifolia* (Willd.) Mier. ex Hook. f. Thoms.** *Menispermaceae*, *Gulvel*(HM E-111) **& *Bombax ceiba* Linn.** *Bombacaceae*, *Sawari* (HM E-110)	5-6 cm twig of *gulvel* and a small piece of *sawari* bark are ground to powder and mixed together	Prepared mixture of powder is given to the patient twice a day for 3 days
	ii) ***Eclipta alba* (Linn.) Hassk.** *Asteraceae*, *Maka* (HM E-112)	4-5 leaves are ground to powder	Powdered leaves are administered with a cup of water as a single dose for 2 days

Ailment	Botanical/Family, local name (Herbarium specimen No.)	Preparation of medicine	Mode of administration of medicine
Prevention of pregnancy	i) ***Daucus carota* Linn.** var. ***sativa* DC.** *Apiaceae*, *Gajar* (HM E-113)	70g seeds are ground to powder	5g of the seed powder is given to the woman twice a day for 14 days from the 4th day of menstruation
	ii) ***Syzygium heyneanun* (Duthie) Wall. ex Gamble** *Myrtaceae, Lahan jamun* (HM E-114)	Bark in the west side of the tree is removed and powdered	Spoonful powder is given to the woman as a single dose on the 5th day of menstruation
Sexual potency	***Mucuna pruriens* (Linn.) DC.** *Fabaceae*, *Kachkori* (HM E-115)	50g seeds are finely powdered	This powder is mixed in 50g honey and taken at every morning. The sperms count increases from 30 to 80%
Fistula	***Achyranthes aspera* Linn.** *Amaranthaceae*, *Aghada*(HM E-116)	The leaves are crushed and a paste is prepared	Leaves paste is applied externally at night until relief is felt
Diabetes	i) ***Gymnema sylvestre* (Retz.) R.Br.** *Asclepiadaceae*, *Bedki* (HM E-117)	Fresh leaf is plucked early in the morning	One leaf is eaten as such every morning for 5 days
	ii) ***Calotropis gigantea* (Linn.) R. Br. ex Ait.** *Asclepiadaceae*, *Rui* (HM E-118)	Fresh flowers are plucked in the morning	Seven flowers are eaten every morning for 21 days
Kidney stone	***Ensete superbum* (Roxb.)Cheesm** *Musaceae*, *Jangli keli* (HM E-106)	The fresh tender peduncle is cut and used	About half foot peduncle is eaten raw. It leads to excessive urination and later relief is felt from kidney stone
Constipation	i) ***Celosia argentea* Linn.** *Amaranthaceae*, *Kombda* (HM E-119)	i) 250 g leaves are fried and curry is prepared	The curry is eaten in excess at a time
		ii) 7-9 cm piece of root is crushed and soaked in half glass of water for 4-5 hours	This water is administered to the patient once a day for 2 days
	ii) ***Curcuma inodora* Blatt.** *Zingiberaceae*, *Vedi halad* (HM E-108)	About 2.5cm piece of rhizome is crushed and soaked in half glass of water	This water is taken in a single dose
	iii) ***Baliospermum raziana* Keshava Murthy & Yoganarasimhan** *Euphorbiaceae*, *Dathi* (HM E-120)	Roots (1-2) are crushed and soaked in a cup of water for 4-5 hours	This water is administered as a single dose
Dysentery	i) ***Ficus glomerata* Roxb.** *Moraceae*, *Umber* (HM E-122)	10-15g gum is dissolved in a cup of water	This infusion is taken once a day for 2 days
	ii) ***Rhynchosia bracteata* Benth. ex Baker** *Fabaceae*, *Walmoyda* (HM E-123)	Root pieces (2-3) are crushed and soaked in a cup of water for 4-5 hours	A cup of water is given to the patient 2 times a day for two days
Asthma	***Aegle marmelos* (Linn.) Correa ex Roxb.** /*Rutaceae*, *Bel* (HM E-124) & ***Zingiber officinale* Rosc.** *Zingiberaceae*, *Adrak* (HM E-125)	Mix pulp of one fruit with a small piece of *adrak* and equivalent amount of sugar is added to the mixture	This mixture is given twice a day till cured
Bloody motions	***Holarrhena pubescens* (Buch.-Ham.) Wall.** *Apocynaceae*, *Kala kuda* (HM E-126)	A small piece of the bark is crushed and added to a cup of water	This water is given twice a day for two days
Dog bite	***Ensete superbum* (Roxb.)Cheesm** *Musaceae*, *Jangli keli* (HM E-106)	Few seeds are powdered	A spoonful powder is taken with glass of water early in the morning for 7 days

Ailment	Botanical/Family, local name (Herbarium specimen No.)	Preparation of medicine	Mode of administration of medicine
Snake bite	i) ***Luffa cylindrica*** **(Linn.) M. J. Roem.** *Cucurbitaceae*, A bitter variety of *Gilka* (HM E-127)	The fruit is crushed and soaked in a glass of water	This infusion is given to the patient as a single dose. It leads to the vomitting and relief
	ii) ***Cyphostermma auriculata*** **(Roxb.) P. Singh & B.V. Shetty** *Vitaceae*, *Tedip* (HM E-128)	About 10 cm of bark is crushed and soaked in a glass of water	This water is given to the patient immediately 2-3 times a day
Scorpion sting	i) ***Dalbergia volubilis*** **Roxb.** *Fabaceae*, *Alai* (HM E-129)	The fresh root is cut or rubbed on stone to prepare a paste	This paste or cut exposed root is applied on affected area
	ii) ***Madhuca indica*** **J.F.Gmel.** syn. *M. latifolia* Macbr. **/** *Sapotaceae*, *Mahuda* (HM E-130)	The seeds are finely powdered	Powdered seeds are applied immediately after sting
Food poisoning	***Hibiscus sabdariffa*** **Linn.** *Malvaceae, Khatti pendi* (HM E-131)	A few sepals are boiled in a glass of water	The infusion of sepals is given to the patient which leads to vomiting
Paralysis	***Celastrus paniculatus*** **Willd.** *Celastraceae*, *Malkagani* (HM E-132)	Seeds are boiled and then crushed to obtain oil	This oil is applied on paralyzed parts in the morning and evening. This oil is also taken orally 2 ml each in morning and evening for 15 days
Skin diseases	***Cassia tora*** **Linn.** *Caesalpiniaceae*, *Powadya* (HM E-133)	Seeds are finely powdered and mixed in coconut oil to prepare a paste	The paste is applied on affected part till cured
Leucoderma	***Ziziphus xylopyra*** **(Retz.) Willd.** *Rhamnaceae*, *Ghatbor* (HM E-134) & ***Datura innoxia*** **Mill.** *Solanaceae*, *Pivala dhotra* (HM E-135)	Leaves of *ghatbor* and flowers of *pivala dhotra* are crushed to prepare a paste	This paste is applied on the patches at night and continued till relief is felt
Bed sores	***Carissa congesta*** **Wight** *Apocynaceae, Karvanda* (HM E-136)	Roots (2-4) are crushed and soaked in a cup of water for 4-5 hours	This cup of water is administered twice a day for 2-3 days. The paste is applied on affected area at night for 3- 5 days
Toothache	***Buchanania lanzan*** **Spreng.** *Anacardiaceae*, *Charoli* (HM E-137)	Gum of the tree is washed and small pieces are prepared	The pieces are kept on the affected tooth for over night
Body pains	***Bombax ceiba*** **Linn.** *Bombacaceae*, *Sawari* (HM E-110)	Few leaves are crushed and soaked in water	The water extract is added to hot water and the bath is given to the patient. The treatment is repeated for 2-3 days
Gonorrhoea	***Eranthemum nervosum*** **(Vahl.)R. Br.** *Acanthaceae*, *Karaw* (HM E-138)	Roots (2-3) are crushed and soaked in a cup of water for over night	This cup of water is given to patient in the morning for 2-3 days
Stomachache	***Celosia argentea*** **Linn.** *Amaranthaceae*, *Kombda* (HM E-119)	Roots are crushed to powder	Half spoon powder is administered for adults while half of it is used for children as a single dose
Sprain	***Abelmoschus manihot*** **(Linn.) Medic.** ssp. ***tetraphyllus*** **(Roxb. ex. Horn.) Borss. /** *Malvaceae*, *Jangali bhendi* (HM E-139) & ***Cordia macleodii*** **(Griff.) Hook. f. & Thoms. /** *Ehretiaceae*, *Shelti* (HM E-140) & ***Grewia tiliaefolia*** **Vahl /** *Tiliaceae*, *Dhaman* (HM E-141)	Roots of all these three plants are powdered equally and mixed with clay soil	The preparation is used to apply as a paste at night till cured

Madhuca latifolia

Tinospora cordifolia

Curculigo orchioides tuber

Aegle marmelos

Eclipta alba

Mucuna pruriens

Plants recorded in the present research work are well-known as medicinal plants. But an interesting observation is that the Nandurbar tribes are using them for different therapeutic uses. For example ***Tinospora cordifolia* (Willd.) Mier. ex Hook. f.** is popularly known for its use in jaundice and spleen enlargement but in Nandurbar it is used to cure menorrhagia. ***Eclipta alba* (Linn.) Hassk.** is popular hair tonic, but its leaves are used by Nandurbar tribes to cure some gynaecological disorder. Similarly, the use of bark of ***Syzygium heyneanum* (Duthie) Wall. ex Gamble** to prevent pregnancy; flowers of ***Calotropis gigantea* (Linn.) R. Br.** as anti-diabetic; peduncle of ***Ensete superbum* (Roxb.) Cheesm.** for kidney stone and seeds of ***Cassia tora* Linn.** for skin diseases are all new observations made for these medicinal plants. On the other hand the use of ***Achyranthes aspera* Linn.** for fistula and piles, ***Holarrhena pubescens* (Buch.-Ham.) Wall.** for bloody motions, ***Gymnema sylvestre* (Retz.) R.Br.** for diabetes, ***Mucuna pruriens* (Linn.) DC.** for sexual potency are well-known[6, 10].

The following therapeutic uses made in the present study are new observations made among tribal medicine in Nandurbar district. They were not reported in earlier works from this area including Tayade and Patil[11]: seeds of ***Daucus carota* Linn.** as oral contraceptive; sepals of ***Hibiscus sabdariffa* Linn.** as emetic; peduncle of ***Ensete superbum* (Roxb.) Cheesm.** (wild banana) as diuretic; roots of ***Commelina benghalensis* Linn.** as anti-epileptic; roots of ***Rhynchosia bracteata* Benth. ex Baker** as anti-dysenteric; and bark of ***Cassine albens* (Retz.) Kosterm.** as anti-depressant or psychosomatic drug.

Phytochemical analyses of these plants may lead to development of some potential drugs with these therapeutic uses. Tribal medicines for treating certain cases like dog bite, snake bite, scorpion sting and psychosomatic disorders may be considered with little seriousness because our conversation with local people revealed that there was very less satisfactory relief to patients in these cases. Some medicine men of these tribes act according to their blind faith and belief instead of the response of the patient to the treatment. Hence, researcher should be careful in recording the observations. To sum up, the ethnobotanical knowledge system of Nandurbar tribals presents some valuable information to phytochemists and pharmacologists for further studies.

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