

## ETHNOVETERINARY MEDICINAL PLANTS TRADITIONALLY USED BY TRIBES OF CHHINDWARA (M.P.)

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**Abstract:** In this article plants used to cure various livestock diseases by the tribes of Chhindwara are enumerated. A total number of 30 plants belonging to 26 families were reported to have ethnoveterinary applications. The present study emphasized that there is a profound and growing knowledge gap between old and younger generations. People of more than 50-65 years age know a lot about wild plant products as compared to younger generation. The impact of modern amenities leads to slow and diminishing of ethnobotanical knowledge.

**Keywords:** Chhindwara, Ethnoveterinary, Remedies, Tribes.

**Introduction:** Chhindwara district lies between latitude 21 to 22° North and longitude 78 and 79° East. It is located in south-west of Madhya Pradesh and is a well known tribal district and the largest district of the state. The main tribe found in the area belongs to Mavashi, Pardhan, Bhariya and Gond. They prefer to live on hilly tops or near to forest area in small settlements.

Ethno-veterinary medicine refers to people's knowledge, skills, methods, practices and beliefs about the care of their animals [1]. Ethnoveterinary Medicine is used for the maintenance of good animal health in developing countries [2]. According to an estimate over 80% of the developing world's population while half of the population in industrialized countries use the traditional medicine for treatment of human and animal diseases [3].

Ethno-veterinary medicines (EVM) are as old as the domestication of various livestock animal species. Despite the advancement of pharmaceutical industry and development of clinical agents, traditional indigenous medicine is still practiced in rural areas for human and livestock ailments. These EVMs and practices are holistic livestock health care and management methodologies adopted in various parts of the world. During recent years, there has been wide concern for collecting more ethnobotanical information, especially ethnomedicinal information on plants [4]. In India and other countries good attempts have been made to document the medicinal plants used to cure animal diseases.

**Materials & Method:** An ethnobotanical study was conducted from March 2011 to June 2014 in different locations of the Chhindwara district. For accurate and best possible information the elders, traditional healers, local practitioners, 'vaidhyas' and housewives were interviewed based on specific questionnaire designed by [5] and information were recorded in the ethnobotanical field notebook. The specimens were identified using regional floras and various revisionary and monographic works. Information

regarding the vernacular plant names, part(s) used, methods of preparation, mode of application and treated diseases were documented.

The present study was planned with the following objectives:

1. To document the scattered knowledge of ethno-veterinary practices used for maintaining the health and curing diseases of livestock and pet animals in rural areas of Chhindwara.
2. To assess the present status of ethnoveterinary knowledge in rural areas of Chhindwara.
3. To provide information to researchers testing the efficacy of locally available remedies and finding alternatives to conventional medicines that will help them in developing useful information for the farmers.
4. To address the need that along with modern veterinary medicine effective traditional alternatives is a suitable solution for animal health problems.

**Result & Discussions:** A total of 30 plant species belonging to 26 families were reported by the study participants against veterinary ailments have been gathered and documented alphabetically along with their local names, parts used, preparations & applications.

**Acacia nilotica** (L.) Delile

Family: Mimosaceae

Vernacular Name: Kikar

Habit: Tree, Part used: Leaves

Ethnoveterinary uses: (i) 500 g tender twigs are given as feedstuff for 2-3 days to buffaloes for curing diarrhoea.

(ii) 500 g fruits or bark are given as feedstuff daily for 4-5 days to the sheep and goats to kill the stomach worms.

(iii) Gum of the plant is used for loss of appetite in cattle.

(iv) Flower powder mixed with water is given orally to animal twice a day to cure jaundice.

**Aegle marmelos** (L.) Correa

Family: Rutaceae

Vernacular Name: Bel patra

Habit: Tree, Part used: Fruit

Ethnoveterinary uses:

(i) 500 g fruit paste mixed with 50 g dried ginger fed orally once a day for 2-3 days to treat dysentery and diarrhoea.

(ii) Fruit pulp is given daily for the cure of internal injury.

**Albizia lebbbeck** (L.) Benth.

Family: Mimosaceae

Vernacular Name: Siris

Habit: Tree, Part used: Leaves

Ethnoveterinary uses:

(i) Juice of the crushed green leaves was dropped to the eyes to treat general eye problem in goat, cow and buffalo.

(ii) Stem bark paste is applied on the wounds.

(iii) Latex of the plant mixed with goat milk is used as eye-drop to cure conjunctivitis.

**Argemone mexicana** L.

Family: Papaveraceae

Vernacular Name: Satyanashi

Habit: Herb, Part used: Whole plant

Ethnoveterinary uses:

(i) 100 g whole plant is fed with any available local grass once a day for removal of retained placenta in cows and buffaloes.

(ii) Seed oil is used as anthelmintic in animals.

(iii) Latex of the plant and seed oil was applied on ulcerous wounds.

**Asparagus racemosus** Willd.

Family: Liliaceae

Vernacular Name: Satavar

Habit: Herb, Part used: Whole plant

Ethnoveterinary uses:

(i) 2-3 tsp of shade dried tuber's powder is mixed with Groundnut cake and mixture is fed to cattle and buffaloes to improve lactation quality.

(ii) About 500 g root powder given with milk for one month for the treatment of arthritis in cattle.

**Boerhaavia diffusa** L.

Family: Nyctaginaceae

Vernacular Name: Punarnava

Habit: Herb, Part used: Whole plant

Ethnoveterinary uses:

(i) 500 g whole plant is fed twice a day for removal of retained placenta in cows and buffaloes.

(ii) Fresh leaves powder mixed with soybean seeds is fed to male goats and sheep to improve sexual strength.

**Buddleja asiatica** Lour.

Family- Buddlejaceae

Vernacular Name: Neemda

Habit: Shrub, Part used: Leaves

Ethnoveterinary uses: Dried leaves are applied on the body of animals to prevent mites & in the treatment

of skin conditions.

**Butea monosperma** (Lam.) Taub. Family- Fabaceae

Vernacular Name: Palash

Habit: Shrub, Part used: Seeds

Ethnoveterinary uses:

(i) Seeds are used to expel worms from stomach and anemic condition.

(ii) Fresh gum is very effective when applied over the animal skin for removal of external parasites.

(iii) 200 ml decoction of stem bark is given orally once a day for 3 days to reduce bloat.

**Calotropis procera** (Aiton) Dryand.

Family: Asclepiadaceae

Vernacular Name: Aak

Habit: Herb, Part used: Leaves

Ethnoveterinary uses:

(i) Milky latex of plant is applied on inflamed areas to relieve inflammation and on snakebite to neutralize poison.

(ii) The leaves and flowers are crushed and the paste is mixed with honey to cure flatulence, indigestion and intestinal worm infestation.

(iii) The root powder is mixed with butter and applied to dog bite.

(iv) Leaves, stems and twigs of the plant are applied to cure mouth diseases.

**Cissampelos pareira** Linn.

Family - Menispermaceae

Vernacular Name: Kadu pan

Habit: Climber , Part used: Leaves

Ethnoveterinary uses:

(i) Fresh leaves are crushed with water and placed open in dew for a night. The colour is changed from green to red. This is given to sheep as tonic and in urinary diseases.

(ii) Paste of root is applied externally as antidote on insect bite and scorpion sting.

(ii) The root is crushed and extract is given twice daily to cattle to treat blood in urine.

**Citrullus colocynthis** (L.) Schrad.

Family: Cucurbitaceae

Vernacular Name: Indrayan

Habit: Herb, Part used: Fruit

Ethnoveterinary uses:

(i) Roots grinded with water and the decoction obtained is given to cure cough.

(ii) Fruits are fed to cattle for improving digestion & tubers are given in cough & cold.

(iii) Ash of dried burnt plant is mixed in honey is used to treat wounds in animals.

(iv) Dried fruit is ground into powder and then mixed with common salt and the preparation is given to cattle in case of rheumatism.

**Colebrookea oppositifolia** Smith. Family - Lamiaceae

Vernacular Name: Bhirmoli

Habit: Shrub, Part used: Leaves

Ethnoveterinary uses:

- (i) The leaves are applied to wounds to remove maggots.
- (ii) Juice obtained by pounding young leaves is used as anthelmintic. About 25 - 30 ml is fed once a day for 2 - 3 days.

**Cordia dichotoma** G.Forst.

Family: Boraginaceae

Vernacular Name: Rethu

Habit: Tree, Part used: Leaves

Ethnoveterinary uses:

- (i) Warmed leaves are tied over cracked nipples in case of lactating animals especially buffaloes.
- (ii) Extract of leaves is mixed with honey and applied on the mouth of the animal to treat swelling of foot and mouth disease.
- (iii) Paste of leaves is given to the animal with water to treat diarrhoea.
- (iv) Fresh fruit juice is mixed with sugar and the preparation is fed to sick goats and sheep twice daily to cure pneumonia.

**Cuscuta reflexa** Roxb.

Family: Convolvulaceae

Vernacular Name: Amar bel

Habit: Climber, Part used: Whole plant

Ethnoveterinary uses: (i) Decoction of the plant was applied on the infected site bitten by poisonous worm to relieve the pain in animals.

(ii) Paste prepared from plant is fed to cattle for treatment of swelling, indigestion and short mammary glands.

(iii) A combination of *Cuscuta reflexa* and *Clerodendrum viscosum* is used for treatment of anthrax in cattle.

(iv) 20 gm of plant fried in mustard oil is given twice daily after delivery as galactagogue.

**Ficus religiosa** L.

Family: Moraceae

Vernacular Name: Peepal

Habit: Tree, Part used: Bark

Ethnoveterinary uses:

(i) Plant gum is applied when a domestic animal bitten by a snake.

(ii) Leaves are fed to cattle to cure blood dysentery.

(iii) Shed dried leaves are powdered and fed two times a day for 7 days to cure bronchitis.

(iv) Soft leaves mixed with jaggery are given to cure bone fracture.

**Gossypium hirsutum** L.

Family: Malvaceae

Vernacular Name: Binola

Habit: Shrub, Part used: Seed

Ethnoveterinary uses:

(i) Seeds used as dietary supplement to increase the milk quality for butter yield especially in case of

buffaloes.

(ii) Leaves are fed to the animals for retention of fetal membranes in buffaloes.

(iii) Paste of *Vigna unguiculata*, *Gossypium hirsutum* seeds & fruits of *Musa paradisiaca* are given for increased lactation.

**Helianthus annuus** L.

Family: Asteraceae

Vernacular Name: Surajmukhi

Habit: Shrub, Part used: Seed

Ethnoveterinary uses:

(i) About 50 ml seed oil is given daily during pregnancy to cattle for smooth delivery & to increase fat content in milk.

(ii) Seed powder mixed and boiled with coconut oil is tied on testis to relief in swelling.

**Lawsonia inermis** L.

Family: Lythraceae

Vernacular Name: Mehendi

Habit: Tree, Part used: Leaves

Ethnoveterinary uses: (i) About 50 g leaf powder is given with any fodder to maintain pregnancy just after fertilization for one week in buffalo.

(ii) Dried leaf powder mixed with water is given to animal twice a day to cure haematuria.

(iii) Seed powder of *Coriandrum sativum* mixed with leaf of *Lawsonia inermis* and water kept overnight and given to animal, twice a day, to cure diarrhoea.

**Melia azedarach** Linn.

Family-Meliaceae

Vernacular Name: Bakayan

Habit: Tree, Part used: Leaves & seeds

Ethnoveterinary uses:

(i) Leaves are used as fodder.

(ii) Ripe seeds are grinded and mixed with oilseed cake and given to cattle as galactagogue.

(iii) Seeds are crushed and mixed with milk and given to cattle to cure fever and seasonal cough.

(iv) 25-30 g leaves is given to animal once in a day for 3 days for removal of internal parasites.

**Mentha arvensis** Linn.

Family-Lamiaceae

Vernacular Name: Pudina

Habit: Herb, Part used: Leaves

Ethnoveterinary uses:

(i) Leaves was given internally to remove external parasites.

(ii) Plants are extensively used in stomach problems.

**Plumbago zeylanica** L.

Family: Plumbaginaceae

Vernacular Name: Chitrak

Habit: Herb, Part used: Leaves

Ethnoveterinary uses:

(i) 250 g dried twigs powdered with Sodium bicarbonate (soda) is given orally for 2-3 days to improve appetite.

(ii) Root paste is applied to check tooth decay.

(iii) Decoction of plant is given as an expectorant.

(iv) Paste of the root is applied on infected wound of cattle to kill the worm and to heal the wound.

**Portulaca oleracea** L.

Family: Portulacaceae

Vernacular Name: Noniya

Habit: Herb, Part used: Whole plant

Ethnoveterinary uses: (i) Whole plant used as feedstuff to prevent excessive bleeding in buffaloes during and after delivery.

(ii) Leaf extract is useful in inflammation.

**Ricinus communis** L.

Family: Euphorbiaceae

Vernacular Name: Arandi Habit: Shrub, Part used: Seed

Ethnoveterinary uses:

(i) 50 ml seed oil is drenched twice for 2-3 days for general gastric problems.

(ii) The oil of seeds is used as a purgative in animals.

**Terminalia cuneata** (Roxb. ex DC.) Wight & Arn.

Family: Combretaceae

Vernacular Name: Arjun

Habit: Tree, Part used: Bark

Ethnoveterinary uses:

(i) Paste of fresh bark is given orally for removal of retained placenta in cows and buffaloes.

(ii) A piece of stem bark is tied around the neck of the cattle using thread made of *Helicteres ixora* to cure wounds.

**Terminalia chebula** Retz.

Family: Combretaceae

Vernacular Name: Harad

Habit: Tree, Part used: Fruit

Ethnoveterinary uses:

(i) 20 g fruits mixed with 200 g methi (*Trigonella foenum-graecum*) are boiled in 2.5 litre water for half an hour and allowed to cool. 50 ml cooled decoction is given orally for 2-3 days for better digestion.

(ii) Plant powder is mixed with molten butter. The paste is smeared on the mouth to cure foot and mouth disease.

(iii) About 100 g of fruit and bark are crushed and boiled in water to prepare decoction. The decoction is administered thrice daily with small amounts of rock salt to cattle diarrhoea and dysentery.

(iv) Stem bark is ground with pepper and garlic and given to cure cold fever.

**Tribulus terrestris** L.

Family: Zygophyllaceae

Vernacular Name: Gokhru

Habit: Herb, Part used: Whole plant

Ethnoveterinary uses:

(i) Water extract of whole plant is given orally twice a day for 2-3 days to goats for curing diarrhoea & urinary problems.

(ii) The juice of fresh leaves is given to animals for colic and chronic cough.

**Vitex negundo** Linn.

Family-Verbenaceae

Vernacular Name: Nirgundi

Habit: Shrub, Part used: Leaves

Ethnoveterinary uses:

(i) Juice of the leaves used for removing foetid discharge and worms from ulcers.

(ii) Leaves are crushed and salt is mixed and given to buffaloes in fever and stomach problems.

(iii) Tender leaves are ground with pepper and garlic and given to cure infectious diseases.

(iv) Leaves and rhizome are crushed in the ratio of 2:1. The paste is warmed and applied externally to allay pain due to sprain.

**Withania somnifera** (L.) Dunal

Family: Solanaceae

Vernacular Name: Ashwagandha

Habit: Shrub, Part used: Root

Ethnoveterinary uses:

(i) Root decoction is drenched once daily to cow and buffaloes to treat cold and cough.

(ii) The leaves are crushed together and used to wash the animal using water till recovery of skin diseases.

(iii) Powder of root 50 g mix in 1 liter water and drench once daily for a week for quick recovery of horn injury.

**Xanthium strumarium** Linn.

Family-Asteraceae

Vernacular Name: Bada Gokhru

Habit: Herb, Part used: Leaves

Ethno-Veterinary uses: (i) Leaves juice/ash is used externally for maggots in wounds and healing.

(ii) Plant juice in doses of 200 ml once in a day for swelling of the glands in cattle.

**Ziziphus nummularia** (Burm.f.) Wight & Arn.

Family: Rhamnaceae

Vernacular Name: Jhar beri

Habit: Shrub, Part used: Whole plant

Ethnoveterinary uses:

(i) 500 g tender twigs and leaves are given twice a day for 5-6 days to remove intestinal worms.

(ii) 150 g fruits are grinded with 10 g tea twice a day for two days to treat diarrhoea in case of calves of cows, buffaloes, camels etc.

**Conclusion:** Ethnoveterinary plants and remedies documented here are preliminary and need phytochemical and pharmacological screening for active principles and clinical trials for therapeutic actions. The tribal and rural people use the medicinal plants around them and ethnomedicines are a part of their culture. The animal population is expanded in the villages, veterinary facilities from government sectors become insufficient, younger generation tend to discard their traditional life style. Hence

documentation of traditional practices of herbal medicine for cattle healed will be coherence in future [6].

These observations would serve as data base to formulate plant derived compounds in herbal veterinary drugs which could serve as better alternative to allopathic medicines that cause side effects in livestock. The study focuses the adoption of

folk medicines for immediate action on animal care along with livestock related social realities. Local people and the keepers of this knowledge should be recognized and appropriately compensated.

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