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Ethnoveterinary Medicinal Plants for Treatment of Animal Ailments by Traditional Healers in Nanded District (MS), India

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Abstract

Domestication of animals is as old as the civilization of human beings. So the ethnoveterinary medicine system is also a very old tradition. The present study reports the survey from one of the tribal pockets from the Nanded district which is very much known for the forest, tribal and traditional healers. Ethnoveterinary medicine (EVM) is the main resort for treating various animal diseases especially in remote areas where doctors are rarely available. We collected the information about ethnoveterinary medicinal plants from traditional healers in the region through direct interviews and field observations with them. We interviewed 118 practitioners from different villages (89 male and 29 women). They provided disease-wise information about the plant species and their parts used methods of preparations, doses, duration, etc which they follow for years together without any side effects and promising results. In the present study, we reported a total of 55 plant species belonging to different families for the treatment of animal ailments and illnesses. The botanical name of plants, plant parts used, multiple usages, forms of preparations, and applications are described here for zootherapy. Herbal remedies were mostly used as decoctions, paste, or powdered plant materials to treat diseases of the eyes, gastrointestinal, respiratory tracts, inflammatory and dermatological ailments or conditions. Administration of plants to treat animal diseases was found mostly oral, followed by surface applications of paste and drops to treat ears and eyes. This study suggests the importance of in-situ and ex-situ conservation of ethnoveterinary medicinal plants for their further use and future importance. The methods of preparation and application used by traditional healers in treating different animal diseases should be preserved as ethnoveterinary knowledge. It will be very important in enhancing our understanding of the relationship between human society and nature since our origin. It will also help to elaborate more effective strategies against animal diseases in the future.

Keywords - Ethnobotany, Ethnoveterinary medicine (EVM), Traditional healers, Zootherapy.

1. Introduction

According to Tiwari L. and Pande, P.C. (2010), ethnoveterinary medicine is an all-encompassing, multidisciplinary study of the environmental factors, sociocultural institutions, and local knowledge related to the health and husbandry of animals. India's diverse and abundant flora offers a priceless reservoir of therapeutic plants. Herbal remedies have long been recognized, and ancient texts like the Rig Veda, Garuda Purana, and Agni Purana attest to this (Raj Kumar Verma, 2014). Researchers are currently cataloging a range of ethnoveterinary treatments derived from plants. The scientific term for conventional animal health care that offers less expensive substitutes for allopathic medications is ethnoveterinary medicine. Compared to medicines and synthetic treatments, the use of indigenous ethnoveterinary therapies is easier, less expensive, and more sustainable (McCorkle CM & et al., 1998). Tyrosinase inhibitory activity of selected medicinal plants(Jadhav et al.,2021).The abundance of plants in India provides livestock owners with a multitude of resources for treating animal illnesses and afflictions. The majority of India's population—76 percent—lives in rural areas (Manoj Y & et al., 2012).

In order to treat primary health care needs and keep domestic animals healthy and productive, ethnoveterinary remedies are widely used and very effective. Orally transmitted from one generation to the next, traditional herbal healers, or Pashu Vaidyas, acquire indigenous knowledge of the animal health care system. It is less methodical and typically spreads orally rather than in writing. There is no denying the importance of ethnoveterinary medicine in the growth of livestock, as evidenced by the widespread use of native herbal remedies by rural residents to cure their household pets (Tiwari and Pande, 2010; Mallik et al., 2012).

Comparable western medications are frequently more expensive than those offered by ethnoveterinary treatment, but the goods are more readily available locally. The subject of ethnoveterinary research and development is becoming more and more popular as a result of these and other causes (Yineger H, & et al., 2007). Tribal healers, who possess extensive knowledge and expertise in traditional systems of treatment, hold traditional information about ethnoveterinary practices. However, this knowledge is rapidly disappearing and is not well recorded. Despite their crucial role in maintaining the health of the human and livestock populations, it is also suggested that knowledge of ethnomedicinal plants is in danger of being lost forever and deteriorating as a result of the oral transmission of herbal heritage from generation to generation rather than in writings (Mesfin F& et al., 2009).

It would be extremely important to chronicle current ethnoveterinary medical research from areas with rich biodiversity and cultural contexts. The usage of ethnoveterinary medicinal plants by indigenous societies and the traditional knowledge about them are valuable for community healthcare, drug development, biodiversity preservation, and cultural traditions preservation. The goal of the current study was to record the ethnoveterinary medicinal plants from one of the tribal pockets in the Nanded district, which is well-known for its forests, tribes, and traditional healers, as well as the preparation and application techniques used by traditional healers to treat various animal diseases. In light of this, the current investigations were started with the goal of

identifying knowing resource people—older, learned farmers and seasoned traditional healers, for example—and recording their expertise with using ethnoveterinary medicinal plants.

2. Material and methods

2.1 Study area

The study was carried out in several villages in the Indian state of Maharashtra Nanded District. The District of Nanded is located between latitudes 180 15' and 190 55' North and longitudes 770 to 78025' East. It is 10,332 square kilometers in size. The state's southeast region is where it is situated. The majority of people live in rural villages and rely on subsistence farming to exist. The climate is varied, featuring both temperate and subtropical regions. Seven rural villages in the Nanded District of Maharashtra—Therban, Somthana, Somthana-tanda, Shingarwadi, Dhawari, Dhanora, and Borgaon—were the subject of the current study. Succulent flora and tropical thorn scrubs are common in the area. There are a number of ephemeral plants that mature during the rainy season. Tribal healers employ several of these plants as ethnoveterinary ingredients in prescription medicines to treat common illnesses. Some of them are utilized as veggies as well. The main crops farmed in this area are wheat, cotton, bajra, mustard, barley, gram, wheat, and turmeric. There are also plenty of grazers and browsers, such as goats, sheep, camels, cows, and buffaloes. The majority of the farmers in this region own domestic animals such dogs, goats, sheep, oxen, buffalo, and cows.

2.2 Data collection

From June 2020 to May 2023, a comprehensive survey was conducted to gather data and information about the many medicinal plant species that traditional herbal healers (Pashu Vaidyas) in the Nanded district's isolated valleys utilize to treat animal illnesses. Semi-structured questionnaires and oral interviews were used to gather ethnoveterinary data from both tribal and non-tribal cultures. In order to get information, identify the locations, habits, and types of medicinal plants in the research area as well as how they are used to treat specific animal ailments, extensive field visits were conducted to local herbal healers. To better understand the reliance on traditional (herbal) and modern (allopathic) systems of treatment for treating animal ailments among different categories of animals, veterinary doctors, elders, traditional healers, and randomly selected households and headman were consulted and interviewed within the study areas.

Plant specimens collected from the study sites were identified in the field itself, and unidentified plants were identified with the aid of available literature. Information on the use of specific plant species, the preparation of herbal medicine, and application practices for curing animal ailments were collected during the field visit (Maheshwari, 1963; Jain et al., 2000). A mathematical method that was modified from [10] was used to calculate the frequency index.

FI= FC/N × 100 is the formula to use.

Whereas FI = Frequency index (which indicates the proportion of times participants list a particular kind of plant), N = Total number of participants; FC = Number of participants who listed a specific plant species.

3. Results and Discussion

3.1. Taxonomic diversity, life forms, and plant parts used.

As demonstrated in (Fig. 1), the current study demonstrated that the tribal herbal healers employ a variety of ethnoveterinary techniques to treat various animal ailments. These practices involve the use of plant parts, such as leaves (n = 21), fruits (n = 10), seeds (n = 09), underground parts (roots/rhizome/bulb}) (n = 08), bark (n = 6), whole plants (n = 06), flowers/floral parts (n = 03), and stem (n = 01).

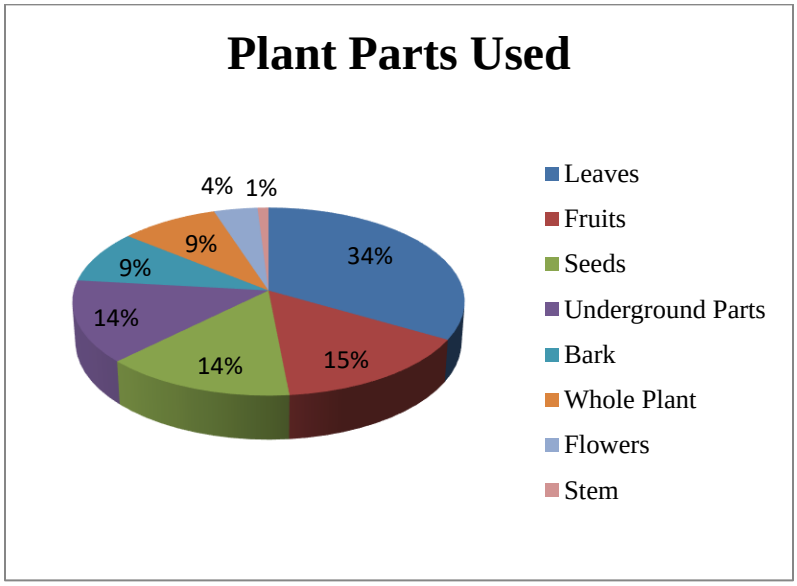

Fig.1: Plant components that the traditional healers in the research areas used to prepare remedies.

Curcuma longa, *Bombax ceiba*, *Vigna radiata*, *Coriandrum sativum*, *Allium cepa*, *Zingiber officinale*, and few of the 55 medicinal plant species that belong to 36 families and are used extensively to treat a variety of animal ailments, including mastitis, poisoning, foot and mouth disease, dermatitis, cataract, arthritis, burning, pneumonia, and dysentery, among other conditions that are frequently seen in various livestock and animals, including buffalo, cow, sheep, goat, horse, mule, dog, and cat. Tribal healers gather all of these medicinal plant species from the nearby forests and alpine meadows, using them as treatments for a range of animal illnesses (Table 1). According to the study, the elderly population in rural areas, where most of them lack formal education, is well-versed in ancient healing methods for treating animal illnesses. A number of ailments that affect cattle, such as snakebite, bone fractures, broken horns, worms on wounds, coughing, diarrhea, and other conditions, are still entirely treated using the conventional method (Table 1).

3.2. Medicinal applications and dosage

Eight species of ethnoveterinary medicinal plants are used to treat diarrhea (8 common livestock diseases), seven species treat childbirth and easier delivery, five species treat wound healing and injury, four species treat indigestion/digestive disorders, three species treat stomach aches and

dysentery, colds, coughs, fever, milk production, and mastitis, two species treat skin burns, and one species treats the remainder of the ailments that have been reported. Rural farmers and traditional herbal healers employed various portions of ethnoveterinary medicinal plants as medicine to cure various livestock ailments.

After fruits (10 species), seeds (9 species), underground parts (root/rhizome/bulb) (8 species), bark (6 species), whole plant (6 species), flowers/floral parts (3 species), and stem (1 species), the leaves (21 species) were found to be the most commonly used part of the plant for the treatment of various ailments. *Albizia lebbeck (L.) Benth.* leaves are used to cure ocular issues. *Withania somnifera (L.)* roots are used to treat wounds and most illnesses, including anthrax. Jaundice is treated using leaves of *Acacia nilotica (L.). Allium sativum L.* bulb taken orally to measure the reproductive rate. For nursing animals, warmed *Cordia dichotoma L.* leaves are tied over fractured nipples. For a month, animals suffering from paralysis and dysuria are treated with a decoction made from the flowers of Butea monosperma (Lam.). The remainder of the plant species were utilized to treat various animal illnesses. The majority of illnesses, with the exception of skin (ectoparasite removal, wounds, tongue sores, skin burn), joints and muscles (swelling, joint discomfort), and associated health issues, are treated internally with the preparations.

The ways in which various plant parts are used differ depending on the type of sickness. The preparation techniques can be divided into several groups, including decoction, extract, juice, oil, pastel, powder, solution, and boiling form. Different plant parts are occasionally used directly in both dried and fresh forms. A paste made from several plant components was the most widely used preparation technique, followed by cooked forms, juice, decoction, oil, powder, solution, and extract. The study areas do not have any strictly standardized doses of herbal preparations as known in modern veterinary medicine, despite the fact that healers used a variety of measurement tools to estimate the dosages of local medicines. These tools included numbers for seeds, fruits, bulbs, and flowers, spoons for paste and powdered plant parts, and cups for water during preparation and liquid form of the prepared medicine.

Table 1 lists the plant species that the traditional healers in Nanded district (MS), India, have classified as ethnoveterinary medicinal plants, along with information on how they prepare and apply them to livestock.

Sr. No.	**Scientific Name of EVMPs, Family and Local Name**	**Habit**	**Part used**	**Species of animal**	**Frequency index (FI)**	**Preparation, dose and duration**	**Disease Treated.**
1	*Albizia lebbeck* (L.) Benth. (Mimosaceae) Siris	Tree	Leaves	Goat, cow, and buffalo	15	The crushed green leaves release their juice.	Eye problems.
2	*Azadirachta indica* A. Juss. (Meliaceae) Neem	Tress	Leaves	Goat, cow, and buffalo	28	For two to three days, 500g of sensitive twigs and leaves are given twice a day. Over broken horns, a paste made of leaves, hairs, and mustard oil is applied.	Relieve stomachache.
3	*Calotropis procera* (Asclepiadaceae) Ruchaki	Shrub	Leaves	Buffalo, Sheep, Goat	9	After delivery, buffaloes' tails are immersed in latex for four to five minutes in order to remove any remaining placenta. Every day, 250 g of green leaves are fed to sheep as feed to eradicate intestinal worms. Dried leaves are fed as feed, particularly to goats in order to boost their milk production.	Childbirth, to kill intestinal worms, to increase milk production.
4	*Ficus religiosa* L. (Moraceae) Peepal	Tree	Bark	Buffaloes	12	Dried leaves are fed as feed, particularly to goats in order to boost their milk production.	Delivery and milk problems.
5	*Musa paradisiaca* L. (Musaceae) Kela	Herb	Fruit	Cow and Buffalo	14	For feeding cows and buffaloes, a ripening banana with a camphor	Mastitis.

						tablet inside is used.	
6	*Portulaca oleracea* L. (Portulaceae) Chotighol	Herb	Whole plant	Buffalo	6	The entire plant is fed as feed.	To stop buffaloes from bleeding excessively both during and after birth.
7	*Ricinus communis* L. (Euphorbiaceae) Karadi	Shrub	Leaves and seeds	Cow, Buffalo, and Ox	8	A little over 50 grams of fresh leaf was mixed with one liter of water and given orally once a day, every morning, for two days.	Stomach problems.
8	*Tribulus terrestris* L. (Zygophyllaceae) Sarata	Herb	Whole plant	Goat	2	For two to three days, the entire plant's water extract is taken orally twice a day.	Cure diarrhea.
9	*Triticum aestivum* L. (Poaceae) Gehu	Herb	Seed	Goat	12	After crushing 300g of seed, 20g of tea leaves, and 100g of ashwagandha are combined, and the mixture is left for two days.	Cold and Cough.
10	*Withania somnifera* (L.) Dunal (Solanaceae) Ashwagandha	Shrub	Root	Cattle, sheep, goat	9	One teaspoon of the ground roots of Solanum incanum L. and *Withania somnifera (L.) Dunal* plants should be combined with one teaspoon of water after drying; this mixture is then consumed one teaspoon at a time for three days.	Most diseases especially anthrax and wounds.
11	*Zingiber officinale Roscoe* (Zingiberaceae) Adrak	Herb	Rhizome	Cattle	13	The rhizome is crushed and mixed with fodder and orally given to livestock.	To alleviate cough or throat issues, prevent stomach issues, relieve gas, and

							serve as a starter.
12	*Acacia nilotica* (L.) Delile (Mimosaceae) Babul	Tree	Leaves, and fruits	Buffalo, Sheep, and Goat	11	Tender 500g twigs are fed for two to three days. Daily feedstuff of 500g fruits is administered for 4-5 days. Weekly doses of 50g powdered dried leaves, 200g cow butter, and 100g sugar are administered.	To treat diarrhea, Jaundice, to kill stomach worms.
13	*Aegle marmelos (L.)* (Rutaceae) Bel	Tree	Fruits	Ox, buffalo, goat, and cow	16	Oral paste made from 500g fruit and 50g dried ginger, given once a day for two to three days.	Dysentery and diarrhea.
14	*Allium sativum L.* (Liliaceae) Lahsun	Herb	Bulb	Cow, buffalo, goat, and sheep	11	200g of jaggery is combined with 100g of garlic and five large elaichi to make a paste that is fed to domestic animals orally.	Administered orally to check the rate of fertility.
15	*Argemone mexicana L.* (Papaveraceae) Satyanashi/Bilayat	Herb	Whole plant	Cows and buffaloes	8	After boiling 200g of the entire plant in 2 liters of water until it is only half cooked, it is cooled and left to soak for 2 days. Once a day, 100 g of entire plant is fed with any local grass that is available.	Curing constipation and for removal of retained placenta.
16	*Capsicum annum L.* (Solanaceae) Lal mirch	Herb	Fruits	Buffalo	13	For one to two days, two to three mirch fruits are given once day along	Body heat.

						with any food.	
17	*Cicer arietinum L.* (Fabaceae) Chana	Herb	Seeds	Cattles	12	Seeds that have soaked are fed to animals.	In case of mulching cattle, to enhance milk production.
18	*Citrullus colocynthis (L.)* Schrad. (Cucurbitaceae) Channi	Climber	Whole plants, fruits	Cattles	5	A 50g whole Solanum surratense plant is combined with 100g fruits, and the mixture is administered orally.	Fruits are fed to cattle to improve digestion and treat diarrhea.
19	*Cordia dichotoma G. Forst.* (Boraginaceae) Bhokar	Tree	Leaves	Buffalo and Cow	7	When an animal is nursing, warmed leaves are tied around cracked nipples.	Cracked nipples.
20	*Curcuma longa L.* (Zingiberaceae) Haladi	Herb	Rhizome	Buffalo, cow, and ox	12	For two days, 15-20 g of rhizome combined with 100 mango pickles is administered twice a day. The affected area is coated with a paste produced from the crushed fresh herb rhizome.	To treat general gastric problems, genital infections.
21	*Cuscuta reflexa Roxb.* (Convolvulaceae) Amarvel	Climber	Whole plant	Cow, buffalo, goat, and ox	5	The location where the toxic worm bit the victim is treated with a decoction of Cuscuta.	Relieve pain.
22	*Gossypium hirsutum L.* (Malvaceae) Kapas	Shrub	Seeds	Cow, buffalo, and goat	6	As a dietary supplement, water-soaked seeds are given to animals, particularly those who are nursing, to improve the quality of their milk and boost butter supply.	To increase milk quality.
23	*Helianthus annuus L.* (Asteraceae) Surajmukhi	Shrub	Seeds	Buffalo and cow	2	Cattle fed 50 milliliters of seed oil every day when they are pregnant.	Smooth delivery.

24	*Syzygium aromaticum Linn.* (Myrtaceae) Clove	Shrub	Calyx	Buffalo and Cow	3	The nipples are covered with clove oil.	Mastitis.
25	*Trigonella foenum-graecum L.* (Fabaceae) Methi	Herb	Seeds	Cattles	6	After 250g of seeds and black salt are cooked in two liters of water, 45–50g are administered orally once daily for four to five days.	To increase body heat.
26	*Achyranthus aspera L.* (Amaranthaceae) Aghada	Herb	Whole plant	Buffalo, Cow, Ox, and goat	3	Livestock is fed an entire boiled plant orally.	Throat trouble.
27	*Datura metal L.* (Solanaceae) Kala-Dhatura	Shrub	Fruits	Cattle and Sheep	5	The herb's fresh fruits are pulverized and used with feed.	Removal of intestinal worms and stomach issues.
28	*Tinospora cordifolia (A. Rich.)* (Menispermaceae) Gulvel	Shrub	Stem and Leaves	Buffalo, Sheep, Cow, and Ox	6	The herb's fresh leaves and stem are pulverized and administered to cattle.	Treatment of fractures and boiled juice is used for fever.
29	*Citrus reticulata* (Rutaceae) Kadulimb	Small tree	Fruits	Cattles	10	Its peel fruit and mixed peel fruit from *Citrus aurantium* are prepared into a decoction that is then administered orally to cattle.	Facilitate digestion.
30	*Vigna radiata R. Wilczek* (Leguminosae) Mung	Herb	Seeds	Pig, cow, Ox	2	Mung beans are ground, combined with vegetable oil, and then fed to pigs orally.	Stomach problems.
31	*Adhatoda vasica Nees.* (Acanthaceae) Adulasa	Shrub	Leaves and Bark	Cow, buffalo, and ox	11	For a week, three doses of leaf juice and an equal amount of *Syzygium cumini* bark juice are given.	Diarrhea
32	*Allium cepa Linn.* (Liliaceae) Kanda	Herb	Bulb and leaves	OX and Cow	9	The onion bulb is finely mashed, then combined with 25 g of Musa	Removal of ectoparasites.

						paradisiaca leaf ash and 100 ml of mustard oil. The resulting combination is applied externally to the skin in order to eradicate the ectoparasites.	
33	*Bambusa bamboo (Retz.)* (Poaceae) Bamboo	Herb	Leaves and rhizome	Cow and buffalo	3	For a month, pregnant buffalo are fed the leaves (100–200 g) twice a day to facilitate delivery. Cattle with diarrhea are given a paste made from an equal amount of rhizome and a fresh bamboo leaf twice a day for seven days.	Easier delivery and used to cure diarrhea.
34	*Butea monosperma (Lam.) Taub.* (Fabaceae) Palas	Tree	Flowers	Buffalo, cow, and ox	5	For a month, the cattle are given a floral decoction three times a day to cure paralysis and dysuria.	Dysuria and paralysis.
35	*Coriandrum sativum Linn.* (Apiaceae) Kothimbir	Herb	Leaves and seed	Cattles, goat, cow, ox	8	An animal given leaves and seeds twice a day for seven days is cured of loose motion.	Loose motion
36	*Ficus benghalensis Linn*. (Moraceae) Vad	Tree	Root	Cow and ox	2	Cattle with gas pain are given 100 g of well-ground root once a day for three to four days.	Stomach ache
37	*Ocimum sanctum Linn*. (Lamiaceae) Tulasi	Shrub	Leaves	Ox, cow, goat, and Buffalo	8	A decoction made by boiling 350 g of fresh *Ocimum sanctum* leaves in 200–250 ml of water is used to treat colds and coughs.	Cough and Cold.
38	*Psidium guajava Linn.* (Myrtaceae) Peru	Shrub	Leaves	Ox, buffalo, and cow	6	To treat fever, a one-liter decoction of fresh leaves is administered twice a day till recovery.	Fever
39	*Syzygium cumini (L.) Skeels.*	Tree	Bark	Buffalo,	8	When joint discomfort occurs, an	Joint pain

	(Myrtaceae) Jambul			ox, and cow		equal amount of bark from *Syzygium cumini* and *Azadirachta indica* is cooked in water and the resulting decoction is applied to the afflicted joints.	
40	*Tamarindus indica Linn.* (Fabaceae) Chinch	Tree	Leaves and fruits	Ox, cow, buffalo, and goat	6	Fresh leaves weighing between 400 and 500 grams are cooked in water and then applied topically to the afflicted area of the body to reduce swelling till total alleviation. *Allium sativum* is combined with the paste formed from the ripe fruits. The resulting mixture is administered to tongue sores after being gently cooked in mustard oil.	Swelling and tongue sores.
41	*Delonix regia Linn. (*Fabaceae) Gulmohar	Tree	Bark	Cow, ox, and goat	2	Bark extract is taken twice a day, along with garlic and black pepper, to alleviate fever.	Fever
42	*Vitex negundo Linn.* (Verbenaceae) Nirgudi	Tree	Leaves	Cow, goat, ox, and buffalo	5	For a week, cattle are fed a mixture of dried leaves and grass to treat diarrhea.	Diarrhea
43	*Ziziphus jujuba Linn.* (Rhamnaceae) Ber	Tree	Leaves and seed	Cow, buffalo, goat, and ox	7	*Linum usitatissimum* oil and leaf paste are combined and applied to skin burn victims. For a week, this treatment is administered three or four times every day.	Skin burn
44	*Dalbergia sissoo Roxb.* (Fabaceae) Shisam	Tree	Leaves	Cow, buffalo, and goat	2	For one week, the juice of 100 g leaves is administered twice or three times a day to effectively stop	Stop bleeding.

						bleeding.	
45	*Eclipta prostrata Linn.* (Asteraceae) Bhringaraj	Shrub	Leaves	Ox, cow, and goat	4	Mustard oil is cooked with freshly crushed leaves. To promote early healing, the resulting paste is applied to wounds twice a day for ten to fifteen days.	Wounds
46	*Hibiscus rosa-sinensis Linn.* (Malvaceae) Jaswand	Shrub	Bark	Goat	2	Bark weighing between 150 and 200 grams is finely pulverized and taken twice a day with one liter till full recovery in cases of twitching.	Twitching.
47	*Madhuca indica* (Sapotaceae) Mahwa	Tree	Flowers	Cow, goat, and ox	6	To treat cow fever, a mixture of around 100 g flower paste, 250 jaggeries, and 50 water is administered twice a day for seven days.	Fever
48	*Mangifera indica Linn.* (Anacardiaceae) Amba	Tree	Fruits	Buffalo, cow, ox, and goat	4	When cattle have dyspepsia, the paste made from 50–100 g of fruit is fed to them once or twice a day for seven days, along with wheat bread.	Indigestion
49	*Bombax ceiba Linn.* (Bombaceae) Kat-Shevari	Tree	Bark	Buffalo, Cow, and goat	2	*Glycine max* seeds are combined with *Bombax ceiba* bark and ground with water for consumption.	Opening the udder's milk hole.
50	*Raphanus sativa Linn.* (Brassicaceae) Muli	Herb	Roots	Buffalo, Cow, Sheep, Goat, and Dog	2	Grind the subterranean portion and consume it with water.	Dysentery
51	*Annona squamosa Linn.* (Annonaceae) Sitaphal	Shrub	Leaves	Cow and ox	6	Leaves are rubbed externally on the skin for 5-6 days.	Constipation

						Leaves grind by using mortal and pastel with some amount of water adding and prepared juice is given orally for 2-3 days.	
52	*Aloe vera Linn.* (Liliaceae) Korphad	Herb	Leaves	Cow, ox, buffalo, dog	12	Leaves sap is rubbed on the burned area for 4-6 days.	Burns, inflammation
53	*Ficus racemosa Linn.* (Moraceae) Umber	Tree	Fruits	Buffalo, cow, and ox	5	Fruit juice is given orally in snakebite.	Snakebite
54	*Solanum xanthocarpum Linn.* (Solanaceae) Ranwange	Shrub	Fruits	Buffalo, ox, and cow	4	Fruit juice is given to treat diarrhea.	Diarrhea.
55	*Millingtonia hortensis Linn*. (Bignonacae) Maherka	Tree	Leaves	Cow, ox, buffalo, and dog	6	Leaves are rubbed externally on the skin to control fungal infections.	Fungal infection.

4. Conclusion

The study reveals that there is a wealth of indigenous knowledge about ethnoveterinary medicinal plants, and that this knowledge is crucial to the treatment of livestock in the studied district. The tribal healers have a strong desire to keep their traditional knowledge a secret, and none of them were willing to share it with other people's either freely or in exchange for incentives; they must share their knowledge only with their chosen scions after they become very old. The ethnoveterinary knowledge is passed down orally from generation to generation, and if it is not properly documented, it is susceptible to being lost or misinterpreted. Certain significant ethnoveterinary medicinal plant species that were identified throughout the study need to have their antibacterial properties evaluated in vitro and their active components—which are implicated in treating livestock illnesses—validated.

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