

MEDICINAL PLANTS USED IN THE TREATMENT OF LIVESTOCK DISEASES IN SALEM DISTRICT, TAMILNADU, INDIA

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ABSTRACT

The present report deals with some significant medicinal plants utilized by tribals (Malayali) and rural people to cure 22 familiar ethnoveterinary diseases in the Salem district of Tamilnadu, India. Great livestock maintained by farmers lead to growth of aboriginal veterinary healthcare practices in district. For ethnoveterinary practices, 34 plant species representing 30 genera and belonging to 22 families were identified. Popularly treated ailments were eye problems, dysentery, diarrhoea, ulcers, wounds, foot and mouth sickness, constipation, fractures, internal worms, skin disorders, ticks, fever, snake bite and scorpion sting and bronchitis. The most used plant part for the preparation of medicine was the leaf, followed by bark, rhizome, root, seed, stem, fruit and latex. The present investigation

pointed out that the tribals and rustic people in Salem district have traditional information to manage veterinary illness. Some of the ethnoveterinary medicine have been reported for the first time in India. Scientific names along with, local / vernacular name (Tamil), plant parts used, methods of medicine preparation, doses and precautions have been documented.

KEYWORDS: Ethnoveterinary practices, Medicinal plants, Indigenous knowledge, Livestock, Salem, Tamilnadu.

INTRODUCTION

India is wealthy in cultural and biodiversity and also possesses extensive livestock property. Plants have developed a great number of phytoconstituents, which produce a phytochemical defence mechanism to withstand biotic and abiotic stress. The same phytochemicals, in livestock are used in manage disorders or preventing from ailments. The term ethno-medicine

(when implied to human remedies) and ethnoveterinary medication (in the context of animal curing). Livestock provides a vast extent of services and products including animal power, supplementary nutrition and wool.^[1] In malice of environmental compulsions and hardships of remote regions, the spectrum of livestock diversity in this area is wealthy and varied. This is clear from the occurrence of various breeds of cattle, goats, sheep, poultry, horses, cows and buffaloes etc. In these removed regions, where recent veterinary health curing methods are very scanty, the traditional societies have emerged various indigenous veterinary health care usages to maintain a difference of livestock populations.^[2]

Ethnoveterinary medicines are utilized widely and completely effectively for main health care treatment to make domestic animals productive and healthy. Salem is one of the most important districts of Tamilnadu. It lies between 11°14' 46" and 12°53' 30" North latitude and between 77°32' 52" - 78°53'05" East longitude. The district is mountainous in character. Enumerated below are some notable hills. They are Shevaroy Hills, Kalrayan Hills, Kanjamalai Hills, Bodamalai, Palamalai and Suriyamalai. The district is well known for its unique assemblage of vegetational riches. Salem district has more cattle population. Mecheri (Mettur Taluk) is very famous for sheep. People of this village having domesticated animals like cows, buffaloes and sheep maintain their farm. Villagers need a local doctor to treat livestock problems then and therewith their following nearby plants. In the present investigation was undertaken to report and analyze local information on the curing of several livestock diseases.

Most of the tribal and non-tribal populations are using plants for their domestic farm animals. The ethnoveterinary medicinal plants and traditional information gradually depleting due to need correct records and reported.

MATERIALS AND METHODS

Twenty five villages in Salem district were surveyed during January 2014 - December 2014. Herbal doctors, village herbalists, village dwellers, herbal practitioners, elderly people, cattle growers, farmers, goat and sheep growers, local chiefs, housewife, traditional healers were interviewed in various seasons of a year from time to time. The information were based on first hand data collected from the above group of populace and through personal notice. The information were cross checked with several informats. Ethnoveterinary information and the vernacular names are collected for accounted. Plant specimens were collected and identified

by referring to standard Flora of the Presidency of Madras^[3] Materials for a Flora of the Tamilnadu Carnatic,^[4] Flora of Tamilnadu^[5] and Flora of Shevaroy Hills of Eastern Ghats.^[6]

The plant species are enumerated alphabetically with their, scientific name, vernacular name (Tamil), family, part used, methods of medicine preparation and administration. All the collected plant specimens were deposited in the herbarium of Department of Botany, Government Arts College (Autonomous), Salem for future reference.

Table 1. List of ethnoveterinary medicinal plants for treatment of livestock ailments in Salem District.

S.No.	Scientific Name	Vernacular Name	Family	Part Used	Method of medicine preparation and administration
1.	<i>Abrus precatorius</i> L.	Gundumani	Fabaceae	Root	The root paste is applied on the wounds of the cattle for treat and healing.
2.	<i>Acorus calamus</i> L.	Vasambu	Araceae	Rhizome	Rhizome paste of the plant is utilized in treatment of skin ailment.
3.	<i>Aegle marmelos</i> Corr. Serr.	Vilvam	Rutaceae	Leaf	The leaf paste mixed with turmeric is applied on the wounds and ulcers of cattle.
4.	<i>Alangium salvifolium</i> L.	Alangimaram	Alangiaceae	Leaf	Leaf juice is poured into the eyes of livestock to cure opacity of cornea.
5.	<i>Aloe barbadensis</i> Mill.	Sothukattali	Liliaceae	Leaf	The fresh leaves juice is applied to the skin to destroy ticks.
6.	<i>Andrographis alata</i> Nees.	Periyanangai	Acanthaceae	Whole plant	The whole plant paste is applied externally to cure skin diseases and snake bite.
7.	<i>Andrographis lineata</i> Nees.	Periyanangai	Acanthaceae	Entire plant	Decoction of the whole plant is given orally to cure the diarrhoea of animals. The leaf paste is applied externally to cure insect bite and scorpion stinge.
8.	<i>Andrographis paniculata</i> Nees.	Nilavembu	Acanthaceae	Entire plant	Whole plant paste mixed with coconut oil is applied on skin ailments. The leaf of juice mixed with water is given orally to treat snake bite.
9.	<i>Aristolochia bracteolata</i> Lam.	Aduthinnapai	Aristolochiaceae	Leaf	The leaf paste is applied to kill ticks.

10.	<i>Aristolochia indica</i> L.	Perumarundukodi	Aristolochiaceae	Whole plant	The whole plant paste is applied on affected part in skin disorders.
11.	<i>Asparagus racemosus</i> Willd.	Thannervittan Kizhangu	Asparagaceae	Root	The root paste 100g. mixed with sugar and water is given orally twice a day in dysentery.
12.	<i>Azadirachta indica</i> A. Juss.	Vembu	Meliaceae	Leaf	Fresh leaves juice is fed to treat fever of cattle.
13.	<i>Bauhinia racemosa</i> Lam.	Aathi	Caesalpiniaceae	Bark	Bark juice is fed to cattle to help discharge the placenta after delivery.
14.	<i>Calotropis procera</i> R.Br.	Erukku	Asclepiadeaceae	Leaf and Latex	Leaf juice is given to cattle to discharge the placenta after delivery. Plant latex is fed to kill the internal worms.
15.	<i>Cassia fistula</i> L.	Konnai	Caesalpiniaceae	Stem	Stem bark mixed with leaves of <i>Ocimum sanctum</i> ground to paste and applied to the eyes of livestock for conjunctivitis.
16.	<i>Cissus quadrangularis</i> L.	Pirandai	Vitaceae	Stem and Leaf	The leaf and stem paste is plastered over bone area and bandaged till the bone sets in cattle also.
17.	<i>Coccinia grandis</i> (L.) Voight	Kovai	Cucurbitaceae	Fruits	Fruits are fed with fodder to cure rheumatis.
18.	<i>Curcuma longa</i> L.	Manjal	Zingiberaceae	Rhizome	Paste of rhizome mixed with black gram is given to the affected animal to check blood dysentery.
19.	<i>Datura metal</i> L.	Oomathai	Solanaceae	Fruit	Fruit powder is mixed with coconut oil and applied on the skin of cheap for curing skin disorder.
20.	<i>Ficus racemosa</i> L.	Vellaiatthi	Moraceae	Leaf	Leaves are fed to livestock to treat dysentery.
21.	<i>Ficus religiosa</i> L.	Arasamaram	Moraceae	Bark	Bark paste is applied on the fractured parts.
22.	<i>Justica adhatoda</i> L.	Aadathoda	Acanthaceae	Leaf	Leaf paste of the plant is used in treatment of bronchitis.
23.	<i>Lawsonia inermis</i> L.	Maruthani	Lythraceae	Leaf	The paste of the leaf is applied to treat mouth and foot ailment.
24.	<i>Melia azedarach</i> L.	Malaivembu	Meliaceae	Leaf	The leaf paste applied to mouth and foot disease.
25.	<i>Moringa oleifera</i> Lam.	Murunkai	Moraceae	Leaf	The leaf paste is fed with sugar to raise lactation.
26.	<i>Mucuna pruriens</i> DC.	Punaikkali	Fabaceae	Leaf	The leaf is fed daily to increase livestock lactation.

27.	<i>Muraya paniculata</i> Jack.	Angarapputhalai	Rutaceae	Leaf	The leaf juice is mixed with common salt and given orally to cure the skin diseases of animals.
28.	<i>Piper longum</i> L.	Tippili	Piperaceae	Fruit	The fruit powder mixed with decoction of <i>Allium cepa</i> is applied on the affected part of mouth and foot disorder.
29.	<i>Rhinacanthus nasutus</i> Kurz.	Nagamalli	Acanthaceae	Entire plant	Whole plant juice mixed with water is given orally to treat the diarrhoea of cattles.
30.	<i>Ricinus communis</i> L.	Amanakku	Euphorbiaceae	Seed	The seed oil is give to livestock mixed with fodder against constipation.
31.	<i>Sesamum indicum</i> L.	Ellu	Pedaliaceae	Seed	The seed powdered mixed coconut oil and fed to cattle to cure mouth and foot ailment.
32.	<i>Tamarindus indica</i> L.	Puliyamaram	Caesalpinaceae	Leaf and Fruit	The leaves and pods mixed with water are fed to cattle to cure stomach pain.
33.	<i>Tridax procumbens</i> L.	Vettukayapoondur	Asteraceae	Leaf	The leaf juice applied locally to wound.
34.	<i>Vitex negundo</i> L.	Notchi	Verbenaceae	Leaf	The leaf paste mixed with water is given against breathing problem.

RESULTS AND DISCUSSION

The present investigation showed that the local people of Salem District use various ethnoveterinary practices for treating animal disorders. A total of 34 ethnoveterinary medicinal plant species (i.e. *Aristolochia bracteolata*, *Cissus quadrangularis*, *Calotropis procera*, *Curcuma longa*, *Datura metal*, *Sesamum indicum*, *Vitex negundo*, *Muraya paniculata*, *Rhinacanthus nasutus*, *Asparagus racemosus*, *Andrographis lineata* etc.) of various plant groups (i.e. 6 herbs, 4 perennial herbs 9 shrubs, 11 trees and 4 climbers) belonging to 30 genera and 22 families are being utilized widely for treating 22 animal disorders. (i.e. dysentery, mouth and foot ailments, skin disorders, diarrhoea, snake bite, bronchitis etc) popularly found in six various type of cattle / animals (i.e. cow, sheep, goat, buffalo, horse and oxen.).

Bauhinia racemosa Lam (13.17%), *Cissus quadrangularis* L. (10.8%), *Muraya paniculata* Jack (9.2%), *Andrographis lineata* Nees (7.4%) and *Rhinacanthus nasutus* Kurz (6.5%) were the highest usually utilized and noted plant species for ethnoveterinary usage.

Table 1. shows the number of ethnoveterinary medicinal plant remedies used to cure cattle diseases. Highest number of plants used medicinally belongs to family Acanthaceae 5 Spp, Moraceae 3 Spp, Caesalpinaceae 3 Spp, Aristolochiaceae 2 Spp, Fabaceae 2 Spp, Rutaceae 2 Spp and Meliaceae 2 Spp. Remaining 15 families have 1 species each. Largely herbs are used medicinally followed by shrubs, climbers and trees. Medicinal recipes include fresh or dried plant material. Plants are used in combination of other ingredients or a single plant. Research reveals that in highest of the cases leaves are used followed by whole plant and seeds. It was noted that in every village of investigation area, there are individuals who are regarded as information and skilled in the remedies of livestock ailments.

The traditional medicinal utilize of some surveyed ethnoveterinary medicinal plants is documented in other parts of the country. The therapeutic utility of *Azadirachta indica* is known for skind diseases.^[7] The medicinal value of *Cissus quadrangularis* to treat fracture.^[8] Rajeshkumar and Kumar Avinash Bharati^[9] reported 21 remedies for veterinary care found in the Jalaun district area but all differs from those enumerated in the present investigation. Deepa *et al.*,^[10] explored Namakkal district and reported the use of 70 medicinal plant species. *Asparagus racemosus* is the only species familiar to both the studies. However, the root of the plant *Asparagus racemosus* is used to treat uterine ailments^[11] in humans, whereas in present investigation, *Asparagus racemosus* root is used in treatment of dysentery in cattle.

It was also noted that dysentery, skin diseases, breathing problem, stomach pain, mouth and foot diseases, bronchitis, blood dysentery, internal worms, wounds and ulcers, ticks, rheumatis were the familiar disorders among the domestic animals in district. The research paper is an enumeration of herbal remedies utilized to cure these disorders along with method of medicine preparation and administration. Commonly, freshly collected plants or plant parts are used for treatment. Entire plants, leaves, bark, rhizome, fruits, stem, roots, seed, latex was also used for treatment.^[12]

Animals keeping is one of the essential economic sources forming integral part of the traditional tribal and rustic community. The farmers and tribal people of the area are not only depending on wild plants to get fodder for their animals but also utilize various medicinal plants to treat several animal ailments. The traditional practitioner prepare medicinal on he spot from local plants that grow in the environs of the villages and other ingredients that are locally available such as oil, common salt and sugar. Presently very some elders in the

community practice herbal treat, while the young and modern generation knows lacking or nothing about the traditional herbal medicines.

CONCLUSION

Ethnoveterinary plants and medicines accounted here necessity phytoconstitents and pharmacological screening for bioactive principles and clinical trials for therapeutic activities. The tribal (Malayali) and rustic populace utilize the medicinal plants around them and ethnoveterinary medicines are a part of their culture. The cattle population is expanded in the villages, veterinary facilities from Government sectors become lacking, younger generation tend to discard their traditional life style. Hence reported of traditional usages of herbal drug for livestock healed with coherence in the future.^[13]

The speedy era of globalization, quick changes in cultural scenario and communication facilities usable have largely changed the rustic life in India. This changed scenario is causing danger to ethnoveterinary information and there is immediate demand to document the knowledge before it is wasted forever. There is an urgent demand that essential steps should be taken to conserve these threatened of desired biocomponents in plants through breeding, selection and intensive propagation.

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