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Ethnoveterinary Practices in Villupuram District, Tamil Nadu, India

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ABSTRACT

Ayurvedic medicines are considered to be the best systems of treatment in India and this system is spreading now globally. Natural products are also a part of our everyday life. Ethno veterinary medicine is developed by farmers in field and barns rather than and in scientific laboratories. It is less systematic, less formalized and usually transferred by word of mouth rather than writing. An ethnobotanical survey was conducted in 10 selected sites of Villupuram district. Twenty six plant species belonging to fourteen families were documented in the present study, to cure different diseases in animals. Interviews and detailed personal discussions were conducted with the traditional healers and local people to identify the plants and their medicinal information for six months. The study revealed that the different parts of these plants were used for treatment of different diseases. Leaves are the mostly used part to prepare medicine.

***Keywords*:** Ayurvedic medicine; Ethnoveterinary; Traditional knowledge; Villupuram District

1. INTRODUCTION

Plants are vital for existence of life on earth. The plants around the habitats of the rural population not only provide food for living organisms, but also provide different chemicals for human health. Large populations in India still rely on traditional herbal medicine (Dubey *et al*., 2004). In India it is reported that traditional healers use 2500 plant species and 100 species of plants serve as regular sources of medicine (Pei, 2001). Ethnobotanical knowledge has been documented from various parts of the Indian sub-continent (Das and Tag 2006; Udhyan *et al*., 2005). Several medicinal herbs are flourishing in the state which has been in constant use by local inhabitants in serving to cure the ailments of livestock (Bharathi Kumar *et al*., 2009; Balakrishnan *et al*., 2009).

Since the last three to four decades considerable progress has been made in the field of ethnobotany due to recent explorations. Recently it has been realized that certain medicinal plants are going to play a very significant role in ethnoveterinary practices. Ethno veterinary medicines include the indigenous belief, knowledge, skills, methods and practice pertaining to the health care of animals (Bhatt *et al*., 2013). These medicines are affordable, more effective, easily available and also able to fulfill the social and cultural needs of the rural, aboriginal and tribal people. The data generated by this study will be helpful for making the

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maximum and sustainable use of plants as well as animal resources. The disappearance of these practices will not only affect poor villagers and their livestock but also be a permanent loss of our culture, heritage and biodiversity. So, attempt was made on the survey of ethno veterinary practices in certain villages of Villupuram district, Tamil Nadu. The study focuses pathogenic diseases, digestive disorders and reproductive problems associated with livestock might be overcome by folklore medicines derived from one or combination of several plants.

2. MATERIALS AND METHODS

The present research work has been carried to find out the ethnoveterinary medicine of certain villages in Villupuram district of Tamil Nadu.

Study area

Villupuram district in situated near by Bay of Bengal. Villupuram district is surrounding by Cuddalore district in East, Thiruvannamalai district in west, Perambalur district in south and Kanchipuram district in north. Field trips were conducted to different villages of Villupuram district such as Saalai, Kayathur, Vaniyampalayam, Koliyanur, Radhapuram, Avadaiyarpet, Reddikuppam, Ettikkadu, Athanoor and Ganapathipet.

Plant collection

Information about the ethnic uses of plants were collected from native medicine man, age olders, Siddha doctors and various know ledged peoples about Siddha medicine. The information were collected through oral interviews and recorded. The plants were collected and verified using Gamble flora (Gamble, 1967) and also verified used standard herbarium.

3. RESULTS AND DISCUSSION

A total of 26 medicinal plant species distributed were collected from the study area with the help of traditional healers. Medicinal plants used by them are given with botanical name, family, common name, local name, animal name, animal condition, useful parts, mode of preparation and medicinal uses.

Botanical Name	*Cissus quadrangularis* L.	*Calotropis gigantea* (L.) R. Br.
Family	Vitaceae	Asclepiataceae
Local Name	Pirandai	Erukku
Animal Name	Dog	Dog
Animal Condition	Bone fracture	Wounds
Useful part	Stem	Whole plant
Mode of preparation and medicinal uses	Paste or alcoholic extract of this plant stem were used locally as well as intramuscularly facilities rapid healing of fractured bone in dogs.	Whole plant parts are crushed and the latex is applied to the wounds.

Botanical Name	*Datura metal* auct, non L.	*Curcuma longa* auct, non L.
Family	Solanaceae	Zingiberaceae
Local Name	Oomathai	Manjal
Animal Name	Cat	Cat
Animal Condition	Wounds in leg	Wounds
Useful part	Leaves	Rhizome
Mode of preparation and medicinal uses	Fresh leaves are ground and applied for wounds in cat leg.	The dried rhizome is ground with the help of water and made into a paste. This paste is given to swallow.

Botanical Name	*Arachis hypogeae* L.	*Aloe vera* (L.) Burn. F
Family	Fabaceae	Liliaceae
Local Name	Manila or Nilakkadalai	Sotrukatrazhal
Animal Name	Cow	Cow
Animal Condition	Infertility in cow	Wounds
Useful part	Seed	Leaves
Mode of preparation and medicinal uses	The raw nuts are ground with fresh milk. This mixer is drenched to cow once a day, for 3-5 days.	Break a piece of a leaf of *Aloe vera*. So, that the sap begins to trip. Apply the sap on the wound. The left itself can also be crushed and applied.

Botanical Name	*Ricinus communis* L.	*Musa paradisiaca* L.
Family	Euphobiaceae	Musaceae
Local Name	Aamanakku	Vaazhai
Animal Name	Cow	Cow
Animal Condition	Wound	Worms
Useful part	Seed	Root
Mode of preparation and medicinal uses	Crush the seeds of *Ricinus communis* and boil them to make oil. Dry leaves can also be used after being crushed into a powder. Apply the oil or the leaf powder on the wound, completely covering the wound until it heals.	The root juice is given to swallow.

Botanical Name	*Allium sativam* L.	*Vitex negundo* L.
Family	Liliaceae	Verbenaceae
Local Name	Poondu	Nochi
Animal Name	Goat and Cattle	Cattle
Animal Condition	Gastrieis	Body pain and cough
Useful part	Rhizome	Leaves
Mode of preparation and medicinal uses	Paste of bulb is given two times a day for gastric stimulant in cattle and goat.	Decoction of leaf is given two times a day for body pain and cough to cattle.

Botanical Name	*Lippie nodiflora* (L.) A. Rich	*Datura stramonium* L.
Family	Verbenaceae	Solanaceae
Local Name	Poduthalai	Kuru oomathai
Animal Name	Goat and Cattle	Cattle
Animal Condition	Anorexia and digestion	Eye diseases
Useful part	Leaves	Leaves
Mode of preparation and medicinal uses	Leaf decoction is given one time, three days for anorexia and digestion to goat and cattle.	Juice of leaf is applied to eye diseases in cattle.

Botanical Name	*Euphobia hirta* L.	*Ficus bengalensis* L.
Family	Euphorbiaceae	Moraceae
Local Name	Ammaan patcharisi	Aalamaram
Animal Name	Cattle	Goat
Animal Condition	Heamorrhagic enteritis	Bone fracture
Useful part	Whole plant	Leaves
Mode of preparation and medicinal uses	Juice of whole plant is given two times a day for heamorrhagic	Paste of leaf is applied externally for bone fracture to goat.

Botanical Name	*Curcuma aromatica* Salisb.	*Bambusa arundinacea* (Retz.) Wild.
Family	Zingiberaceae	Poaceae
Local Name	Kasthuri manjal	Moongil
Animal Name	Cow	Cow
Animal Condition	Inflammation of the udder (Mastitis)	Diarrhea
Useful part	Rhizome	Leaves
Mode of preparation and medicinal uses	Add water to ground dried rhizome and applied to the inflammation of the udder (Mastitis) in cow.	Leaf is given internally for diarrhea in cow.

Botanical Name	*Acorus calamus* L.	*Vitex negundo* L.
Family	Araceae	Verbenaceae
Local Name	Vasambu	Nochi
Animal Name	Hen	Hen
Animal Condition	Ectoparasitic	Ectoparasitic
Useful part	Whole plant	Leaves
Mode of preparation and medicinal uses	*Acorus calamus* is ground and then applied over the affected area of the skin in hen	Smoke of notchi leaf is to control the ectoparasities.

Botanical Name	*Allium cepa* L.	*Eclipta alba* L.
Family	Liliaceae	Euphobiaceae
Local Name	Venkayam	Karisalankanni
Animal Name	Hen	Rabbit
Animal Condition	Parasite and fever	Skin diseases
Useful part	Rhizome	Leaves
Mode of preparation and medicinal uses	Fresh onion stem are given internally for parasites or fever to hen.	Fresh leaves are ground and applied to the skin disease in rabbit.

Botanical Name	*Aloe vera* L.	*Musa paradisiaca* L.
Family	Liliaceae	Musaceae
Local Name	Sotrukkatrazhai	Vaazhai
Animal Name	Cow	Buffalo
Animal Condition	Stomach wound	Foot mouth disease
Useful part	Leaves	Fruit
Mode of preparation and medicinal uses	Fresh leaves were taken and remove the epidermal layer and the inner core of fluid applied to cure the stomach wound in cow.	Fresh fruit are given internally for foot mouth disease in buffalo.

Botanical Name	*Azadiracta indica* Adr. Juss.	*Phyllanthus niruri* L.
Family	Meliaceae	Euphobiaceae
Local Name	Vembu	Keelanelli
Animal Name	Cow	Sheep
Animal Condition	Foot mouth disease	Cough and fever
Useful part	Seed	Root
Mode of preparation and medicinal uses	Dried seed is ground to oil and add camphor and applied to the foot comary in cow	Decoction of root is given in two times a day to cure cough and fever.

Botanical Name	*Ocimum sanctum* L.	*Solanum nigrum* L.
Family	Lamiaceae	Solanaceae
Local Name	Thulasi	Manathakkali
Animal Name	Cattle	Cattle
Animal Condition	Snake bite	Ulcer
Useful part	Leaves	Leaves
Mode of preparation and medicinal uses	Paste of entire plant is given orally twice a day for three days to snake bites in cattle.	Leaf paste is given orally twice a day for three days to ulcer in cattle.

The present study revealed that twenty six plant species belonging to fourteen families are found in the different areas of Villupuram district. The listed plants possess medicinal values and were used mostly to cure different livestock diseases and or ailments like diarrhoea, mouth diseases, indigestion, wounds, bone fracture, dermatitis and poisonous bites etc. The data evidence that four species of Liliaceae, four species of Euphorbiaceae, three species of Verbinaceae, three species of Solanaceae two species of Zingiberaceae, two species of Musaceae followed by one species of Vitaceae, Asclepiadiaceae, Fabaceae,

Moraceae, Poaceae, Araceae, Meliaceae and Lamiaceae were employed for preparation of herbal remedies for curing animal diseases.

The usage of *Piper nigrum* and *Allium cepa* was very common for curing eye diseases, indigestion, constipation, wounds (Tiwari and Pande, 2010) insect problems (Saikia and Borthakur, 2010) and fever (Nag *et al*., 2007) was in traditional practice of animal care in Uttarkand, Assam and Rajasthan. Similarly, plant species of *Zingiber officinalis*, *Curcuma domestica* (Tiwari and Pande, 2010) *Azadirachta indica*, *Datura metel* (Sanyasi Rao *et al*., 2008) *Calotropis procera* (Kiruba *et al*., 2006) *withania somnifera*, *Corallacarpus epigaeus*, *Bambusa arundinacea* (Ganesan *et al.*, 2008) *Sesamum indicum*, *Tridax procumbens* and *Wrightia tinctoria* (Nag *et al*., 2007) were reported to have ethnoveterinary medicinal values in many places of India. Further study and promotion of ethnoveterinary medicine is bound to help the communities conserve information and integrate select practices into rural animal healthcare services.

4. CONCLUSION

The findings of this study may become basic leads for chemical, pharmacological, clinical and biochemical investigations. 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 liverstock. The study focuses the adoption of folk medicines for immediate action on animal care along with liverstock related social realities. Local people and the keepers of this knowledge should be recognized and appropriately compensated.

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