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Documentation of ethnoveterinary practices in Tirunelveli district, Tamil Nadu, India

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Abstract

Plants and herbs are playing an increasingly imperative role in medicine, particularly in the treatment of serious diseases like cancer. Each plant contains a number of vital compounds, the phytochemicals that can be used in the medical area and in the production of various types of medications. The ethnopharmacological recipes are mostly less systematic, formalised and usually transferred orally through generations. The current study was conducted to document the ethnoveterinary practices followed by local healers and farmers in and around Tirunelveli district of Tamil Nadu. The study revealed 13 species belonging to different families used against diverse ailments has been reported. However, further validation and identification of active principles and their mechanism of action are needed to develop novel therapeutic agents.

Keywords: Ethnoveterinary practices, medicine, healers, farmers

1. Introduction

India is one of the world's twelve super biodiverse nations, with lush greenery and a significant ethnobotanical heritage. Since natural compounds are frequently the focus of alternative medicine, it is thought to be safer, gentler or more suited to the needs of the human body than manufactured conventional drugs [1]. Plants and herbs are playing an increasingly imperative role in medicine, particularly in the treatment of serious diseases like cancer. Each plant contains a number of vital compounds, the phytochemicals that can be used in the medical area and in the production of various types of medications. There are currently over a hundred thousand plants that are either unknown or have not yet been examined and analysed for their medicinal properties [2]. This information about the therapeutic potential of the plants has been obtained through deliberate experimentation as well as trial and error. However, there was a great lacuna in documentation of such recipes that led to the vanishment of many such practices. With this prospective, the current study was undertaken to document the ethnoveterinary practices followed by the farmers and local folklores in Tirunelveli district, Tamil Nadu, India.

2. Materials and Methods

The present research work was conducted to establish the ethnoveterinary practices followed by the local healers and farmers in certain villages in Tirunelveli district of Tamil Nadu.

2.1 Study location

The study was carried out in Tirunelveli district which was located in the banks of river Thamirabarani, which was a magnificent source of diverse flora and fauna.

2.2 Field survey

The study initiated with a field survey. The survey was carried out to collect the ethnoveterinary herbal preparations used by local healers and farmers for treating diverse ailments against the animals like fracture, worm infestation, mastitis, diarrhoea, infertility, chronic wounds etc. Local herbalists, healers, farmers, women self-help groups and local leaders were interviewed for responses regarding traditional knowledge. Scientific names along with local / vernacular name (Tamil) and plant parts used have been documented.

3. Result and Discussion

The study revealed nearly 13 species of plants that were used in various forms to treat diverse ailments in animals.

The study revealed that leaf, bark, rhizome, root, seed, stem and fruit were the plant part used. Decoction, paste, powder and mixture of plant parts were the dosage forms used. The

below table depicts the list of plants used with the local/vernacular name, plant part used and its botanical description.

Table 1: List of ethnoveterinary preparations used with its botanical description

S. No.	Plant	Vernacular / Common name	Family	Plant part used	Used for	Procedure
1.	<i>Azadirachta indica</i>	Vembu, Neem, Indian lilac, margosa tree	Meliaceae	Leaves	Wounds	Fresh paste prepared from the leaves applied over the wound
					Worm infestation	Young tender leaves (kolunthu) given in empty stomach
				Seeds	Wound-Foot and Mouth Disease	The oil extracted from the dried seeds mixed with camphor and applied to the FMD wounds.
2.	<i>Andrographis paniculata</i>	Siriyanangai, Nila Vembu	Acanthaceae	Leaves	Worm infestation	Paste made from fresh 5-7 leaves mixed with hot water and given internally
				Whole plant	Jaundice	Mixed with equal quantities of <i>Azadirachta indica</i> and <i>Holarrhena antidysenterica</i>
				Whole plant	Wounds	Paste made from fresh plants with turmeric applied on wounds
3.	<i>Allium sativum</i>	Poondur, Garlic	Amaryllidaceae	Bulb	Gastritis	Paste prepared from the bulb
4.	<i>Aloe vera</i>	Sotrukkatrazhai	Asphodelaceae	Leaves	Wounds, Stomach ulcers	The sap from the leaves applied over the wound and administered internally for ulcers
5.	<i>Arachis hypogaea</i>	Manila, Verkkadalai, Nilakkadalai	Fabaceae	Seed	Infertility	Seeds ground with fresh milk and administered for 3-5 days.
6.	<i>Cissus quadrangularis</i>	Pirandai	Vitaceae	Stem	Bone fracture	Paste obtained from the stem is applied locally on fracture
7.	<i>Curcuma longa</i>	Manjal, turmeric	Zingiberaceae	Tuber/rhizome	Wounds	The paste prepared from the tubers were applied locally and also given orally.
8.	<i>Euphorbia hirta</i>	Ammaan patcharisi	Euphorbiaceae	Whole plant	Haemorrhagic diarrhoea	Fresh juice of whole plant administered twice daily until cure
9.	<i>Eclipta alba</i>	Karisalankanni	Asteraceae	Leaves	Skin infections	Fresh paste prepared from leaves applied over skin lesions
10.	<i>Phyllanthus niruri</i>	Keelanelli	Phyllanthaceae	Root	Respiratory diseases, jaundice	Decoction prepared from the root administered twice a day until cure.
11.	<i>Sesbania grandiflora</i>	Aagathi	Fabaceae	Leaves	Diarrhoea	Leaves were fed to the animals till cure
12.	<i>Solanum nigrum</i>	Manathakkali	Solanaceae	Leaves	Ulcer	Paste obtained from the leaves given twice daily until recovery
13.	<i>Vitex negundo</i>	Nochi	Verbenaceae	Leaves	Ticks	Boiled with equal quantity of neem leaves in water and decoction was prepared. It sprayed over the animal

The present study revealed 13 plant species belonging to twelve different families found in different geographic locations of Tirunelveli district were used by local healers and farmers for varied ailments in animals like diarrhoea, skin infections, infertility, worm infestation, fracture and ectoparasites. The collected data evinced those two species of Fabaceae and one in each of Verbenaceae, Solanaceae, Phyllanthaceae, Asteraceae, Euphorbiaceae, Zingiberaceae, Vitaceae, Asphodelaceae, Amaryllidaceae, Acanthaceae and Meliaceae were employed in the herbal remedy preparation for treating ailments in animals.

Azadirachta indica was reported to have anthelmintic activity [3] and wound healing activity [4]. Similarly, Siriyanangai /Nila Vembu was previously reported to have anthelmintic, wound healing and against jaundice [5]. *Allium sativum* was reported to have protective effect over gastritis [6]. Similarly, *Aloe vera* was reported to have wound healing activity [7] and also their anti-inflammatory and antimicrobial activity. The beneficial effect of *Cissus quadrangularis* over bone weakness and fracture has been previously reported by Sudaran *et al.* [8]. The wound healing potential of *Curcuma longa* was reported by Fuloria *et al.* [9]. Kumar *et al.* [10] reported the protective effect of *Euphorbia hirta* in haemorrhagic diarrhoea. The anti-diarrhoeal activity and

protective effect against dermatitis of *Eclipta alba* was reported by Timalsina and Devkota [11]. Lee *et al.* [12] reported the hepatoprotective and anti-urolithiatic effect of *Phyllanthus niruri*. The anti-diarrhoeal effect of *Sesbania grandiflora* was reported by Arfan *et al.* [13]. Jain *et al.* [14] reported gastro protective effect of *Solanum nigrum*. Further validation of the recipes and identification of the active principles and mode of action aids in development of novel therapeutic modalities.

4. Conclusion

The results of the current study could serve as fundamental research leads for biochemical, pharmacological, clinical and chemical studies. These findings would be used as a basis for developing plant-derived components in herbal veterinary treatments, which might be a superior substitute for allopathic medications that have negative effects on livestock and their owners. The study focuses on the use of traditional remedies for prompt animal care as well as the social aspects.

5. References

1. Santhivimalarani S, Pavadai P. Ethnoveterinary practices among tribes of Kolli hills in Tamil Nadu, India. International Journal of Pharmaceutical Sciences Review and Research. 2014;28(2):267-271.

2. Mohammed AH. Importance of medicinal plants. Research in Pharmacy and Health Sciences. 2019;5(2):124-125.
3. Jamra N, Das G, Singh P, Haque M. Anthelmintic efficacy of crude neem (*Azadirachta indica*) leaf powder against bovine strongylosis. Journal of parasitic diseases. 2015;39(4):786-788.
4. Alzohairy MA. Therapeutics Role of *Azadirachta indica* (Neem) and Their Active Constituents in Diseases Prevention and Treatment. Evidence-Based Complementary and Alternative Medicine; c2016. p. 1-11.
5. Hossain MS, Urbi Z, Sule A, Hafizur Rahman KM. *Andrographis paniculata* (Burm. f.) Wall. ex Nees: a review of ethnobotany, phytochemistry, and pharmacology. Scientific World Journal; c2014. p. 1-29.
6. Tesfaye A. Revealing the Therapeutic Uses of Garlic (*Allium sativum*) and Its Potential for Drug Discovery. Scientific World Journal; c2021. p. 1-7.
7. Sanchez M, Gonzalez-Burgos E, Iglesias I, Gomez-Serranillos MP. Pharmacological Update Properties of *Aloe Vera* and its Major Active Constituents. Molecules. 2020;25(6):1-37.
8. Sundaran J, Begum R, Vasanthi M, Kamalapathy M, Bupesh G, Sahoo U. A short review on pharmacological activity of *Cissus quadrangularis*. Bioinformation. 2020;16(8):579-585.
9. Fuloria S, Mehta J, Chandel A, Sekar M, Rani NN, Begum MY, et al. A comprehensive review on the therapeutic potential of *Curcuma longa* Linn. in relation to its major active constituent curcumin. Frontiers in Pharmacology; c2022. p. 1-27.
10. Kumar S, Malhotra R, Kumar D. *Euphorbia hirta*: Its chemistry, traditional and medicinal uses, and pharmacological activities. Pharmacognosy Reviews. 2010;4(7):58-61.
11. Timalisina D, Devkota HP. *Eclipta prostrata* (L.) L. (Asteraceae): Ethnomedicinal Uses, Chemical Constituents, and Biological Activities. Biomolecules. 2021;11(11):1-18.
12. Lee NY, Khoo WK, Adnan MA, Mahalingam TP, Fernandez AR, Jeevaratnam K. The pharmacological potential of *Phyllanthus niruri*. Journal of Pharmacy and Pharmacology. 2016;68(8):953-69.
13. Arfan N, Julie A, Mohiuddin A, Khan S, Labu Z. Medicinal properties of the *Sesbania grandiflora* leaves. Ibbosina Journal of Medicine and Biomedical Sciences. 2016;8(06):271-7.
14. Jain R, Sharma A, Gupta S, Sarethy IP, Gabrani R. *Solanum nigrum*: current perspectives on therapeutic properties. Alternative Medicinal Reviews. 2011;16(1):78-85.