

## Ethnoveterinary Practices in India – A Review

Sri Balaji, N<sup>1</sup> and Vikrama Chakravarthi, P.<sup>\*2</sup>

1. Product Manager, 2. Asst. Product Manager, Natural Remedies Pvt. Ltd, Bangalore-100.  
Corresponding author email: vikram@naturalremedy.com, Phone. No.09341263964.

### Abstract

Ethno veterinary practices concern to animal healthcare is as old as the domestication of various livestock species. They comprise belief, knowledge, practices and skills pertaining to healthcare and management of livestock. The Indian subcontinent has rich ethno veterinary health traditions that are the products of decades of experiences. The traditional medicines that are commonly used for animal healthcare can cut down costs considerably. Moreover, they are readily available to the ordinary farmer. The key challenges are to find out the effectiveness and contemporary relevance of these practices. Before the introduction of western medicine, all livestock keepers relied on these traditional practices. This article deals in brief about the traditional ethno veterinary practice methods and its common applications.

**Keywords:** Ethno veterinary medicine & Plants.

### Introduction

India has one of the sophisticated medical cultures with a tradition of over 5000 years. The livestock owners in India have been using traditional medication based on plant formulations since time immemorial. Livestock raisers and healers everywhere have traditional ways of classifying, diagnosing, preventing and treating common animal diseases. Many of these "ethno veterinary" practices offer viable alternatives or complements to conventional, Western style Veterinary Medicine especially where the latter is unavailable or inappropriate. The unique advantage is that India is one of the world's 12 mega diversity countries accounting for 8 % global plant genetic resources and higher share of microorganisms.

### Ethno veterinary practice in India

The veterinary science in India can be classified into codified traditions and folk medicine and has a documented history of around 5000 years. The codified knowledge exist in the form of texts manuscripts on various aspects of veterinary care of the livestock. The folk health practices largely remain undocumented and are passed on from one generation to the other by word of mouth. There is a rich and efficient ethnoveterinary traditions exist in the villages of India which form integral part of the family and plays an important social, religious and economic role. They comprise of belief, knowledge, practices and skills pertaining to health care and management of livestock. There are local healers who are knowledgeable and experienced in

traditional veterinary health care. They use the locally available medicinal plants for treatment of animals. The ethnoveterinary systems are ecosystem and ethnic-community specific and therefore, the characteristics, sophistication, and intensity of these systems differ greatly among individuals, societies, and regions. However, they are facing the threat of rapid erosion.

Widespread interest in documenting and validating ethnoveterinary practices arose in the early 1980s. Since then; several studies have been carried out, many reports written and numerous conferences and workshops held. The introduction of modern practices also made it difficult for the younger generations to appreciate and use the beliefs and practices of their forefathers. Despite recent efforts to promote the use of ethnoveterinary knowledge worldwide, much information is only documented in field reports and scientific publications.

### Ethno Veterinary Medicine

According to the World Health Organization, at least 80% of people in developing countries depend largely on indigenous practices for the control and treatment of various diseases affecting both human beings and their animals. These traditional healing practices are called 'ethnoveterinary medicine'. Ethno veterinary medicine is cost effective and also dynamic (Warren, 1991). Ethno veterinary remedies are accessible, easy to prepare and administer, at little or no cost at all to the farmer. These age-old practice cover every area of veterinary specialization and all

livestock species. Ethno veterinary medicine differs not only from region to region but also among and within communities.

Ethno veterinary medicines are used extensively and quite effectively for primary health care treatment and maintaining animals productive. The knowledge is passed on verbally from generation to generation. Over centuries people have developed their own ways of keeping animal's healthy and productive using age-old home remedies, surgical and manipulative techniques, husbandry strategies and associated magico-religious practices. Taken together these constitute what is now known as Ethnoveterinary Medicine (McCorkle, 1995). Cost, inaccessibility and other problems like side effects associated with the conventional western animal health care system have encouraged constant dependence on such traditional rural wisdom in this field. Ethnoveterinary practices are often cheap, safe, time tested and based on local resources and strengths. These can provide useful alternatives to conventional animal health care (Kumar, 2002). General observations and studies show that the farmers are using several ethnoveterinary practices for curing various diseases. Some of these have enough potential to cure the diseases while others are based on superstitions and mythological religious faiths or there is hardly any basis to be considered as effective treatments.

A study was carried out on identification and documentation of ethnoveterinary practices used by sheep farmers in Rajasthan state of India (Kumar, 2000). In a random sample of 150 sheep rearers of three districts, 182 ethnoveterinary practices used against 17 disease conditions were found. Understanding of the mechanisms underlying such practices as well as to institutionalize their extension to other non-practicing farmers requires systematic explorations. For the purpose of scientific evaluation, modification and optimization of these traditional practices, there is a strong need to develop an approach, which can effectively shortlist the voluminous practices saving the time, energy and resources.

Ethno veterinary information is in danger of extinction because of the current rapid changes in communities all over the world. In fact, many communities nowadays use a mix of local and modern practices. Promoting the conservation and use of ethno veterinary medicine does not mean downgrading or ignoring the value of modern medicine and attempting to replace one with the other. However, it does mean recognizing that both types have their strengths and limitations. In some instances, they complement each other, in others, local practices will be the better choice, and again in others modern practices should be recommended.

### Elements of Ethno Veterinary Practice

Ethno-vet practices has grown recently because these practices are much less prone to drug resistance and have fewer damaging side-effects on the environment than conventional medicine.

Traditional healing practices make use of three important elements:

1. Application of natural products
2. Appeal to spiritual forces
3. Manipulation and surgery

Natural products used are:

- a) Medicinal plants and by-products
- b) Edible earth and minerals
- c) Parts and products of animals
- d) Other ingredients

### Plants

Plants are the most commonly used ingredients in the preparation of ethnovet medicines. All parts of the plants, including leaves, bark, fruits, flowers, seeds are used in medicinal preparations. At present over 35,000 plants are known to have healing properties. Atleast 1,00,000 species of plants are used by humans for as food, medicine, fibre, fuel, oils, shelter, poisons, intoxicants, ornamentals and other purposes. By virtue of specialized biochemical capabilities, plants synthesize and accumulate a vast array of primary and secondary metabolites/chemicals. For reasons both cultural and economical, 75 % of the world's population depends on medicines from plants. Of the proprietary medicines in the western market, 35 % are phytic in origin; however these medicines are derived from less than 0.1 % of known plant species. So far, more than 100,000 biologically active secondary plant compounds have been isolated from higher plants, these diverse structures falling into four main chemical classes. The phenolics (phenols, flavonoids, quinones, tannins and lignins), terpenoids (monoterpenes, lactones, diterpenes, saponins and others), sulphur compounds (glucosilates, disulphides and acetylenic thiophenes) and nitrogen compounds (alkaloids, amines, non-protein aminoacids and cyanogenetic glycosides). Certain organic acids and polyacetylenes are also known to exist (Cotton, 1996).

### Edible earth and minerals

Edible earth, especially from termite and ant hills, is commonly used in ethnovet preparations. Limestone is a commonly used edible type of earth used in decoctions.

### Parts and products of animals

Parts and products of animals, such as skin and hides, bones, milk, butter and even urine and dung are ingredients of ethnovet medicines. Other ingredients Honey, vegetable oils and butters, and salt are used for

**Table-1. Extensively used traditional treatment methods in dairy cattle (Balakrishnan, V., et al., 2009)**

Sr.No	Ailments	Traditional Applications
1	Mastitis	Applying turmeric on udder.
2	Foot and mouth ulcers	Allowing animals to walk in hot sand and applying sand to wounds externally; applying linseed oil and turmeric externally; applying kerosene if the wounds are infested with maggots.
3	Tympany	Drenching linseed oil along with a mixture of ginger, turmeric and asafetida; keeping the animal's mouth open by tying a piece of wood into it.
4	Retention of Placenta	Feeding bamboo leaves or a mixture of oil bran and bajra (finger millet) grain.
5	Diarrhoea	Drenching about 1 kg fruit pulp extract of Aegle marmelos and mango seed kernel for 2-3 days.

their healing and preservative properties.

### Ethno-Botany

Ethnobotany is the term used to define the experience of the humans, who observed birds and animals and tested leaves, fruits and tubers for their ability to satisfy hunger or heal wounds. Ethnobotany is now almost universally taken as the total direct relationship between humans and plants. Indian epics, ancient literature and folklore are replete with references to plants (Jain, 2000).

### Ethno-Vet Preparations

The most common forms of ethno-vet preparations are powders, poultice, ointment, decoction, infusion, cold ware extract, tincture and fumigation.

### Advantages and disadvantages of Ethno Veterinary Medicine (EVM):

#### Advantages of EVM:

- It is freely available or at a cost in proportion to the value of the animal.
- It is easily administered, usually topically or orally.

#### Disadvantages and Limitations:

- Particular methods are often very localised and the scope for their further dissemination is limited.
- Cures are variable in their effectiveness according to season, method of preparation etc., and few have been validated in the same way in which synthetic drugs must be validated.
- From a technical standpoint some are totally ineffective.
- EVM has little or nothing to offer against the acute viral diseases of animals.

### Conclusion

Ethno veterinary practices have immense contemporary relevance. Few ethno veterinary remedies have been tested clinically in livestock species (rather than in laboratory animals). To get the true picture of a remedy's efficacy, it is important that

such studies follow as closely as possible the local way of preparation and application; this is to ensure that the results reflect the efficacy of the remedy and are not influenced by other preparation or application methods. Clinical outcome and research papers in several areas of herbal therapies now find a place in orthodox veterinary medical journals, and it is no longer possible to say that herbal therapies is unethical (Punniamurthy, 2005) More field projects are needed that study the application of ethno veterinary medicine and that develop approaches for building on the local system and using selected practices either alone or blending them with outside technologies. Ethno veterinary medicine can make an economic difference, but its cost-effectiveness varies, and depends on many different factors. In-depth studies are needed to determine how the economic potential of ethno-veterinary medicine can be best utilized.

### References

1. Balakrishnan, V., et al. (2009) Ethno veterinary Studies Among Farmers in Dindigul District Tamil Nadu, India: *Global J. Pharmacol.*, 3 (1): 15-23.
2. Cotton, C.M. (1996) Ethno botany: principles and applications. John Wiley & Sons.
3. Jain, S.K. (2000) Plants in Indian ethno veterinary medicine: status and prospectus. *Ind. J. Vet. Medicine* 20: pp 1-11.
4. Kumar, D. (2002) The use and relevance of ethno veterinary practices in sheep. *Indian Journal of Small Ruminants* 8(2), 124-128.
5. Kumar, D. (2000) Ethno veterinary practices in sheep. Central Sheep and Wool Research Institute, Avikanagar, Rajasthan - 304 501, India.
6. McCorkle, C.M. (1995) Back to the future: Lessons from ethno veterinary RD&E for studying and applying local knowledge. *Agriculture and Human Values*, 12(2), 52-80.
7. Punniamurthy, N. (2005) "Ethno veterinary medicine (EVM): Use of fresh herbal extracts under field conditions for primary veterinary healthcare in India". Fourth International Congress of Ethnobotany (ICEB 2005) at Yeditepe University, Istanbul-Turkey 21-26 August 2005.
8. Warren, D.M. (1991) Using Indigenous Knowledge in Agricultural development Washington: *World Bank Discussion Paper*, No.127:46.

\* \* \* \* \*