

Ethno-Veterinary Practices for Cattle Diseases in Ganjam District of Orissa, India

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ABSTRACT:

The present communication reports on few time-tested practices of 36 plants against 17 cattle diseases in some rural villages of Ganjam district of Orissa, including few plants used for milching of cattle are described.

Keywords:

Ethno-Veterinary treatment, Ganjam district, Orissa, Cattle disease, Traditional Healers (THs).

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INTRODUCTION

Relationships between plants and animals have been continuing since the beginning of this earth. They together flourish with the help and assistance of one another. This relationship was analysed finely after the evolution of human civilisation to a greater extent. Although, ancient human beings were closely associated with domestic animals, plants found in and around their close vicinity and other plants used for their daily necessities like food, shelter, clothing and medicines, there is no authentic record of the veterinary use of plants in the ancient literature.

Therefore, it is difficult to trace the ailments of animals. But, the "Rigveda", which is the oldest describes a lot regarding the close association of human beings with the plants for treatment of their kith and kin (Ayurveda) and their animals (Mrigayurveda) or today's Ethno - Veterinary Treatment (EVT). The Mrigayurveda could not flourish along with its counterpart, the Ayurveda. This might be due to decreasing interest of the traditional / Herbal Healers (Pashu Vaidyas) in the society, less availability of the medicinal plants due to rapid urbanisation and industrialisation.

However, the traditional treatment of the animals, the Ethno-Veterinary Treatment (EVT) due to lack of proper documentation, restricted to few Herbal Healers in our society. Those practices are still continuing in the minds of local people and the tribals, which have got greater accountability towards livestock management in our country. About 85 percent people of India live in villages. Most of them depend on traditional or folk medicines or household remedies for the treatment of diseases in them or their domestic animals suffer from. In rural India and tribal societies, use of plants as veterinary medicines are very common and some sporadic reports from different parts of India are available on the use of plants for the treatment of animal diseases.

In this paper, an attempt was made to collect information on the use of plants by the tribals of Ganjam district for the treatment of some cattle diseases.

STUDY AREA AND METHODS

For the present study, Ganjam district was selected. Orissa is the ninth largest state of India by area and the eleventh largest by population. Out of 30 districts of Orissa state, Ganjam district extends from 18°46' to 20°17' north latitude and 83°48' to 85°10' east longitude, spreading over a

geographical area of 8070.60 Square Kilometre. Ganjam is the southernmost district of Orissa. It is bounded by landmass from three sides and the ocean, Bay-of-Bengal on one side. The tribals, non-tribals and rural area of this district mostly use indigenous plants available in their surroundings as medicines, for the treatment of different diseases their cattle suffer from. Most of the information incorporated here is collected from *Kondh*, *Sabar* and *Samuntia* tribe of Ganjam district.

Based on the method adopted by Jain and Saklani (1992), field studies were conducted frequently in some villages of Kukudakhandi block, namely Chadheimara, Balarampalli, Baniamari, Sanakaranjee, Burugaon, Lathi, Mohuda, Narasinghpur, Vikasapur, Tamana, Kanheiput, Lunighara, Chakundajola and Kumarapura that encompasses Kerandimal hill ranges, to collect information from Traditional Healers /Pashu Vaidyas on the use of plants against cattle diseases. These medicinal plants, as far as possible were collected, processed, dried and after poisoning, the herbaria were prepared and deposited in the Herbarium of the Department of Botany of Berhampur University. The plants were properly identified with the help of Floras. The plants are arranged alphabetically along with their scientific names, family (in parentheses) and vernacular name in Oriya (Or.). This is followed by brief description of the native veterinary practice of the species along with their method of application are described. The detailed list of plant species used for the treatment of different diseases is given in a tabular form (Table-1).

ENUMERATION OF PLANTS

1. *Aegle marmelos* Correa (Rutaceae); Or. *Bela*

Leaves along with leaves of *Datura metel* are boiled and thick decoction is prepared. The decoction is applied to the foreleg joint arch of the cattle suffering from black-quarter disease. The decoction is also administered orally to the diseased animal.

2. *Azadirachta indica* A. Juss. (Meliaceae); Or. *Limba*, *Nema*

i) Neem leaves are boiled in Til oil and the oil is applied on the fore-leg joint arch of the cattle suffering from black-quarter disease.

ii) A piece of neem stick is inserted into the palatal foramen of the cattle suffering from glossitis.



Table-1: List of Cattle diseases and plants used against them.

Cattle disease	Plants used against the disease
1. Abscess and Ulcer	<i>Terminalia chebula</i> <i>Semecarpus anacardium</i>
2. Arthritis	<i>Holarrhena pubescens</i>
3. Black-quarter	<i>Aegle marmelos</i> <i>Azadirachta indica</i> <i>Cassia fistula</i> <i>Datura metel</i>
4. Bone fracture	<i>Bombax ceiba</i> <i>Cissus quadrangularis</i>
5. Cough and Cold	<i>Calotropis procera</i> <i>Ocimum sanctum</i> <i>Adhatoda vasika</i>
6. Chicken pox and Small pox	<i>Hygrophila auriculata</i>
7. Delivery and removal of placenta	<i>Bambusa bambos</i> <i>Cassia occidentalis</i> <i>Momordica charantia</i> <i>Ricinus communis</i> <i>Tamarindus indicus</i>
8. Diarrhoea	<i>Holarrhena pubescens</i> <i>Terminalia arjuna</i> <i>Trachyspermum ammi</i> <i>Psidium guajava</i> <i>Syzygium cumini</i> <i>Acacia catechu</i>
9. Dysentery	<i>Dolichos biflorus</i>
10. Foot & Mouth	<i>Nicotiana tabacum</i> <i>Semecarpus anacardium</i>
11. Fever	<i>Vitex negundo</i> <i>Andrographis paniculata</i> <i>Cuscuta reflexa</i>
12. Glossitis	<i>Azadirachta indica</i> <i>Pergularia daemia</i>
13. Intestinal worm	<i>Mucuna prurita</i> <i>Semecarpus anacardium</i>
14. Knob in the nipples	<i>Steriospermum chelonoides</i>

15. Loss of appetite	<i>Terminalia chebula</i> <i>Zingiber officinale</i> <i>Foeniculum vulgare</i>
16. Milching / Galactogouge	<i>Paederia scandens</i> <i>Dolichos biflorus</i> <i>Amaranthus spinosus</i> <i>Alternanthera sessilis</i>
17. Wounds	<i>Ocimum sanctum</i> <i>Annona squamosa</i>

3. *Adhatoda vasika* Nees. (Acanthaceae); Or. *Basanga*

Equal amounts of bark and *Ocimum sanctum* leaves are boiled in water to get a thick decoction. With it little honey is added and given to the cattle twice daily for five consecutive days to get relief from cough and cold.

4. *Amaranthus spinosus* Linn. (Amaranthaceae); Or. *Kantamarisa*

Leaves are boiled with pulses and given to the cattle as galactogouge after delivery.

5. *Andrographis paniculata* (Burm.f.) Wall. ex Nees. (Acanthaceae);

Or. *Bhuin Nimba, Chireita*

The whole plant is made into small pieces, about 1 kg. of it was boiled in about 5 lit. of water for 3-4 hours and mashed. It was left as such overnight for fermentation. The decoction is filtered and stored. For mild fever, two cups of decoction is administered orally twice a day for 5-6 days, and in chronic fever, the dose is continued for 3-4 weeks.

6. *Alternanthera sessilis* (L.)R.Br.ex (Amaranthaceae); Or. *Madaranga*

The whole plant along with grasses is used as cattle feed to increase lactation after delivery.

7. *Annona squamosa* (L.) (Annonaceae); Or. *Sitaphala, Atta*

The leaves of the plant along with leaves of *Ocimum sanctum* and *Azadirachta indica* in the ratio of 1:1:2 parts are shade-dried and powdered. This powder, mixed with til oil, is applied over the wound to get rid of local infection.

8. *Bombax ceiba* Linn. (Bombaceae); Or. *Simuli, Buru*

The bark after removal of the prickles is

made into a paste. In case of bone fracture or severe Sprains, the paste is applied on the affected area externally and a bandage cloth may also be tied. The treatment is continued for five days.

9. *Bambusa bambos* (L.) Voss. (Gramineae / Poaceae); Or. *Kanta Baunsa*

Young bamboo leaves along with green fodder are fed to cow after delivery for the early removal of the placenta.

10. *Cassia fistula* Linn. (Caesalpiaceae); Or. *Sunari*

Leaves of the plant along with the leaves of banana (*Musa paradisiaca*) and bel (*Aegle marmelos*) are mixed with cow dung and boiled and made into a paste. The paste is applied on the foreleg joint of the cattle for four days, suffering from black quarter disease.

11. *Cissus quadrangularis* Linn. (Ampelidaceae); Or. *Hadabhangata, Hadajoda*

The quadrangular stems of the plant are fried in sesamum or groundnut oil and tied with bandage cloths over the fracture points of the cattle. Then few drops of warm Karanja (*Pongamia pinnata*) oil are poured on it. Massaging is prohibited during the treatment period.

12. *Calotropis procera* (Ait.) R.Br. (Asclepiadaceae); Or. *Arakha*

Nearly 500 gm of sun dried flowers are boiled in 5 lit. of water for 3-4 hours in low flame. Decoction is prepared and stored. 15-20 ml of decoction is administered orally to cattle, 3-4 times a day for 10-12 days to get relief from cough and cold.



- 13. *Cassia occidentalis* Linn. (Caesalpiaceae);** Or. *Bada Chakunda*
Leaves of this plant and old tamarind (*Tamarindus indicus*) pulps are mixed and a paste is prepared. The paste is administered orally to cattle for the early discharge of placenta after delivery.
- 14. *Cuscuta reflexa* Roxb. (Convolvulaceae);** Or. *Nirmuli*
Whole plant is sun dried and ground to make powder. Two tablespoonful of this powder is orally administered twice daily for a week to get relief from fever.
- 15. *Dolichos biflorus* Linn. (Papilionaceae / Fabaceae);** Or. *Kolatha*
i) Decoction of seed is given orally to cattles for good milching after delivery.
ii) Decoction of the whole plant along with seeds is given orally to the cattle suffering from dysentery.
- 16. *Foeniculum vulgare* Mill. (Apiaceae / Umbelliferae);** Or. *Panamadhuri, Panamahuri*
Nearly 50 gm of the seed powder is mixed with equal amount of dry ginger (Sonth), *Zingiber officinale*, molasses and 25 gm of black salt. One tablespoonful of this preparation is rubbed over the tongue of the cattle to improve appetite.
- 17. *Hygrophila auriculata* (Schum.) Heine. (Acanthaceae);** Or. *Koilekha, Koilikhia*
Fresh roots of the plant, along with grasses are fed to the cattle, twice daily for seven days, to get relief from chicken pox or small pox.
- 18. *Holarrhena pubescens* (Buch.-ham.) Wall. ex G. Don. (Apocynaceae);** Or. *Keruan, Koruan*
Leaf decoction is given to the cattle suffering from arthritis and diarrhoea, twice daily till cure.
- 19. *Momordica charantia* Linn. (Cucurbitaceae);** Or. *Kalara*
Leaves of the plant mixed with salt and administered to cattle after delivery for the easy removal of placenta.
- 20. *Mucuna prurita* Hook. (Papilionaceae / Fabaceae);** Or. *Baidanka*
The root of the plant is administered orally with straw to kill and remove intestinal worms of cattle.
- 21. *Nicotiana tabacum* Linn. (Solanaceae);** Or. *Dhuanpatra*
Processed tobacco leaves are crushed and made into a paste with saw dust. The paste is applied on the hoof of the cattle affected with foot and mouth disease.
- 22. *Psidium guajava* L. (Myrtaceae);** Or. *Pijuli, jammu*
About 500 gm. of fresh leaves of the plant are boiled in 200 ml. of water for 10 minutes. The decoction is given twice daily for 4-5 days for the treatment of diarrhoea.
- 23. *Pergularia daemia* (Forsk.) Chiov. (Asclepiadaceae);** Or. *Uturuli*
The juice of the plant is extracted and mixed thoroughly with sesamum oil. The oil-juice mixture is gently rubbed on all sides of the tooth base and jaws to cure glossitis. At the same time the mixture is also massaged on the back-bone. During the treatment period a good bath is done to the animal regularly.
- 24. *Paederia scandens* (Lour.) Merr. (Rubiaceae);** Or. *Prasaruni*
The leaves are boiled and cooked with finger-millet (Ragi) flour and made into a jelly like paste, locally called *Jau*. This *Jau* is fed orally to the milching cow to stimulate and enhance milk production.
- 25. *Ricinus communis* Linn. (Euphorbiaceae);** Or. *Jada, Kala*
Fresh leaves of the plant along with common salt is made into a paste and administered orally to the cattle twice after delivery for easy removal of placenta.
- 26. *Semecarpus anacardium* Linn. F. (Anacardiaceae);** Or. *Kalabhalia*
The warmed tar-like oil extracted from the pericarp of the fruit is applied over the abscess of the cattle for rapid cure. Warmed oil is applied on the hoof of the cattle suffering from foot and mouth disease.
- 27. *Stereospermum chelonoides* (L.f.) DC. (Bignoniaceae);** Or. *Pamphunia, Patuli*
For the treatment of knob in the nipples of the buffaloes, the leaves of the plant are burnt and the knob is fomented with the fumes.

28. *Terminalia chebula* Retz. (Combretaceae);
Or. *Harida*

i) The decoction of the fruit is applied on the hoofs of the cattle suffering from foot and mouth disease.

ii) The decoction of the fruit is also used as an antiseptic topical lotion for washing of wounds and ulcers in cattles.

iii) Fruit powder of the plant, *Bahada* (*Terminalia bellirica*) and *Aanla* (*Embllica officinalis*) together called *Triphala* along with cold water is used as a good appetizer for cattles.

29. *Terminalia arjuna* (Roxb.ex DC.) Wight & Arn. (Combretaceae); Or. *Arjuna*

Leaves of the plant, *Jamu* (*Syzygium cumini*) and *Khaira* (*Acacia catechu*) are powdered together and given to the cattle for the treatment of diarrhoea.

30. *Trachyspermum ammi* (L.) Sprag. (Apiaceae);
Or. **Juani**

250 gm seeds of the plant and 250 gm fresh ginger (*Zingiber officinale*) are ground together to form a paste. 100 gm of tea powder is added to it. The mixture is boiled for 10-15 minutes in 1 litre of water. The preparation is left to cool and then filtered. For the treatment of diarrhoea, half of the preparation is drenched to the cattle, in the morning and the other half in the evening for three days.

31. *Vitex negundo* L. (Verbenaceae); Or. **Begunia, Nirgundi**

Two handfuls of fresh leaves of the plant are boiled in one litre of water for 15-20 minutes to make a decoction. 1-2 cups of the decoction is drenched to the cattle, thrice a day for 5 days, for the treatment of fever.

DISCUSSION

The present investigation reports the age-old and time tested ethno-veterinary practice of 17 types of cattle (Cows, Bullocks, Buffalo etc.) diseases that are known to be treated by 31 plant resources available in these areas. Some plants used for milching of cattle are also described. It is observed that, most of the rural villagers of this district, cattle owners and local people (about 75%) are habituated and prefer to use herbal medicines (EVM) based on ethno-veterinary practices available in their localities, since long by Traditional Healers (THs). Single plant / plant part

or a combination of plants / plant parts are described for the treatment of cattle diseases. Of the reported 36 species, 30 species are used in single disease, 5 species are used in two diseases and one in three diseases.

Agriculture and animal husbandry are the two most important sectors of the district. Majority of the inhabitants live in rural and semi-urban areas and they chiefly depend upon the above two sectors to earn their livelihood. Their poor economic condition does not permit them to meet the cost of allopathic veterinary medicines. Hence, they strongly believe and rely upon their age-old traditional herbal medicines. The ethno-veterinary practice is also found to be successful in most of the cases, except few ones.

However, these age-old practices developed by the tribals in the field are transferred to their successive generations by words of mouth rather than writings. These times tested ethno-veterinary medicines (EVM) are in the verge of extinction. Although, ethnomedicines of this district were well documented, reports on ethno-veterinary medicines are negligible. This paper is new of its kind with the aim to document and widespread the hidden knowledge of the tribals, villagers, farmers, cattle owners and traditional healers on ethno-veterinary medicines and their practices towards cattle diseases of Ganjam district of Orissa, is of very much significant for the biochemists and pharmacologists for further scientific research to develop new pharmaceutical preparations.

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