

Ethnoveterinary medicine from Jalna district of Maharashtra state

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The paper reports some of the unique ethnoveterinary treatments from Dhavda region of Jalna district of Maharashtra state. Large livestock maintained by farmers lead to development of indigenous animal healthcare practices in district. Commonly treated diseases were diarrhoea, dysentery, indigestion, tympani, pneumonia while renderpest, 3 days sickness have rare occurrence. Common way drug administration was mixing the herbs with fodder, leaf juice, and external application. Leaves were commonly used for treatment along with bark, seeds, seed oil, young twigs and fruits. Also, along with herbal treatment use of chemical substance was also recorded during study.

Keywords: Ethnoveterinary practices, Maharashtra

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Cattle play a very important role in agriculture based rural economy of Maharashtra state. Bulls are involved in every agricultural activity since ploughing to harvesting of agricultural crops¹. Buffaloes and cows are the backbone of Co-operative dairy industry in Maharashtra. There is traditionally domesticated livestock of specific breed with their unique character of giving milk, hardness, working ability and strength. In Maharashtra, races like *Devni*, *Khillari*, *Dangi*, *Khandhari* are maintained and reared by common farmers and stock raisers. To maintain such big livestock indigenous animal husbandry practice along with ethnoveterinary medicine is developed in rural Maharashtra on the basis of farmer needs, and regional adaptability. Ethnoveterinary medicine covers people's knowledge, skills, methods, practices and beliefs about the care of their animals². Traditional animal doctors are a substantial component of livestock healthcare systems in developing countries. Such healers and their roles have been largely ignored by the modern veterinary community. Little that is known about traditional livestock healers and their practices and argues that they represent a valuable, but as yet untapped, resource for extending many aspects of basic animal healthcare, especially to poor and smallholder producers in remote or difficult environments³. Very

few attempts have been made so far to record ethnobotanical information from Marathwada region⁴. The paper reveals some of the unique traditional ethnoveterinary medicines from Dhavda region of Jalna district of Maharashtra state.

Jalna district is situated approximately at the center of Maharashtra and North of Marathwada with an area of 7,612 sq km, which is 2.47% of the total state area. The district is situated between 19°1' and 21°3' North latitude and 75°4' and 76°4' East latitude. The study area Dhavda region is located in Bhokardan taluka of Jalna district. The study area is bounded by Bhuldana district of Vidharbha region of Maharashtra in North east and Jalgaon district to North. The district has a sub-tropical climate with an average rainfall between 650–750 mm. The study area is surrounded by Ajantha and Satmala hill ranges. About 85% of geographical area in Jalna district is under agriculture use and domestic animals like bulls, cows, buffaloes play an important part in agricultural activities.

Methodology

The field survey was conducted in Dhavda region of Jalna district during 2005-2007. An approach of socializing and frequent discussions along with help of few local representatives or headmen was followed for gaining rapport among local communities. Prior Informed Consent (PIC) were obtained from

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traditional healers in region and assured for benefit sharing in future application of their knowledge. Later on in an open interview with informants like farmers, shepherds, housewives, information was collected for each plant which include local name, its ethnoveterinary use along with combinations with other plants various formulations used for treating various diseases. Details of use including the approximate amounts and number of doses per day or week were recorded for specific diseases for authentication and validation of method⁵. The study was concentrated on common diseases in livestock possessed by farmers, and local plants and plant parts used for treating these diseases. Collection trips were arranged along with local farmers and voucher specimens collected during each trip were identified and specimens were deposited at herbarium of SBES Science College Aurangabad^{6,7}.

Results and discussion

Various plants and ingredients used by local herbalist to treat livestock in study area are enumerated (Table 1). Plants are arranged along with their botanical name, family, local name, parts used for treatment and method of application. The study reveals 36 ethnoveterinary prescriptions for various animal diseases. These 36 plant species belong to 33 families of which 15 were herbs, 9 shrubs and 11 trees and one climber. It was also noted that diarrhoea, dysentery, indigestion, tympani, pneumonia were the

common diseases among the domestic animals in district and diseases like renderpest, black quarter, three day sickness have rare occurrence¹⁻¹⁶. The paper is an enumeration of herbal remedies used to treat these diseases along with dosage and method of administration. Generally, freshly collected plants or plant parts are used for treatment. Whole plants, leaves, young twigs, bark powder, roots, fruits, seeds, seed oil, was also used for treatment³. Single plant species is used to treat specific ailments like removal of intestinal worms, tympani, for achieving furrore, bronchitis, cataract, three day sickness, hemorrhagic septicemia, etc. Combination of two or more plants is also used to treat specific diseases like arthritis, and pneumonia. Local application or external use of various drugs, i.e. paste of leaves was the common way for treatment but in some cases drugs was orally administered along with fodder. Use of chemical substances like Alum, red lead for treating animal diseases was found to be the unique way of treatment. Ethnoveterinary information is in danger of extinction because of the current rapid changes in communities all over the world. In fact, many communities now days use a mix of local and modern practices¹⁷⁻²⁶. The rapid era of globalization, rapid changes in cultural scenario and communication facilities available have greatly changed the rural life in India. This changed scenario is causing threat to ethnoveterinary knowledge and there is urgent need to record the information before it is lost forever.

Table 1—Ethnoveterinary medicine from Jalna district

Plant name/ family/ local name	Uses
<i>Abelmoschus ficulneus</i> (L.) Wt. and Arn. Malvaceae <i>Ran-bhendi</i>	Bark powder infusion is used as remedy for diarrhoea or enteritis.
<i>Annona Squamosa</i> L. Annonaceae <i>Sitaphal</i>	Leaves of plant mixed with sugarcane cutting are used as fodder to cure indigestion, flatulence and gas trouble in abdomen.
<i>Argemone mexicana</i> L. Papaveraceae <i>Piwala dhotra</i>	Paste of young leaves mixed with young twigs of <i>Maytenus emarginata</i> and equal quantity of salt is applied externally on injury of arthritis.
<i>Asparagus racemosus</i> Wild. Liliaceae <i>Shatawari</i>	Roots cut in to pieces are used as galactogue; generally roots are used after post partem. It increases milk production in cattle and also helps in healing and reformation of uterus.
<i>Azadirachta indica</i> A. Juss. Meliaceae <i>Kadulimb</i>	The leaf axis without leaflet is rubbed like brush on the palate of animal.
<i>Brassica campestris</i> L. Brassicaceae <i>Mohri</i>	Few drops of seed oil are poured into the nasal cavity of animal to lubricate the nasal passage to enhances breathing in severe pneumonia.

(Contd.)

Table 1—Ethnoveterinary medicine from Jalna district—*Contd*

Plant name/ family/ local name	Uses
<i>Butea monosperma</i> (Lamk.) Taub. Fabaceae <i>Palas</i>	Roots of plant crushed and mixed with fodder are given to goats for curing tympani.
<i>Calotropis procera</i> (Ait) R. Br. Asclepiadaceae <i>Rui</i>	Latex of the plant mixed with red lead (vermilion) and <i>Sida rhombifolia</i> leaves is applied externally on the animal from the forehead to end of backbone in a form of drops or dots for curing pneumonia.
<i>Capsicum frutescens</i> L. Solanaceae <i>Lawangi Mirchi</i>	Four to five black colored <i>Capsicum</i> pods firstly fried in edible oil and is given early in morning for 8 - 10 days for obtaining furore in barren cattle.
<i>Cassia fistula</i> L. Caesalpinaceae <i>Bhava</i> .	Dried pod powder is given orally to animal for curing asthma and pneumonia.
<i>Citrus aurantifolia</i> (Christm.) Sw. Rutaceae <i>Limbu</i>	Pickle of the fruits made by adding salt and pounded turmeric is given to animal along with bread of <i>jawar</i> to cure bronchitis. Crushed leaves mixed with curd are orally given to animal for curing renderpest.
<i>Citrus karna</i> Raf. Rutaceae <i>Idlimbu</i>	While grazing or by habit animal may swallow metals like iron, binding wires, nails, pins, etc. It is believed that fruit juice dissolves the iron swallowed by animal; fruit juice is also given for curing kidney stone or retention of urine.
<i>Clematis heynei</i> M.A.Rao. Ranunculaceae <i>Morwel</i>	Leaf paste is applied to eyes for curing cataract.
<i>Clerodendrum multiflorum</i> (Burm. f.) O.Ktze. Verbenaceae <i>Takli</i>	Mixture of leaves with curd or buttermilk is given to animal to treat 3 day sickness. Leaves of the plants are externally applied on broken bones and muscular pain.
<i>Colocasia esculenta</i> (L.) Schott. Araceae <i>Alu</i>	A rhizome is crushed to pulp and applied externally as antidote on the stings of scorpion, honeybee, and wasp.
<i>Corchorus trilocularis</i> L. Tiliaceae <i>Chinchoda</i>	Paste prepared from alum mixed with latex of leaves of the plant and few drops of edible oil is applied externally into eye to cure cataract or sight problems due to internal injury.
<i>Crotalaria verrucosa</i> L. Fabaceae <i>Ghatsarp</i>	Leaf extract is given to the animal for curing haemorgic septicemia.
<i>Cuminum cyminum</i> L. Apiaceae <i>Kadujire</i>	Powder of seeds is soaked in water; water given orally to animal can cure gastric trouble, tympani and indigestion. Seeds mixed with black salt are given for curing tympani.
<i>Dichrostachys cinerea</i> (L) Wt. Arn. Mimosaceae <i>Ailtura</i>	Leaves finely crushed along with water are given orally to cattle to cure renderpest.
<i>Dolichandrone falcata</i> (wall ex D.C.) Seem Bignoniaceae <i>Medh- Shingi</i>	In severe diarrhoea or dysentery, crushed leaves mixed with water or buttermilk is given. In case of retention of urine, leaves are directly given to animal along with fodder for few days.
<i>Eclipta alba</i> (L) Hassk. Asteraceae <i>Kala Maka</i>	Leaf paste is applied externally for curing injury caused by iron metal for prevention of further infection and early healing.
<i>Enicostema axillare</i> (Lam.) Raynal Scrophulariaceae <i>kadunai</i>	Plant mixed with fodder is given to cure any type of disease showing the symptom of fever, three day sickness.
<i>Jatropha curcas</i> L. Euphorbiaceae <i>Mogali erand</i>	Few twigs with fodder are common remedy for tympani. Roots are tagged to the tail of goats and sheep for removing external parasite.

(Contd.)

Table 1—Ethnoveterinary medicine from Jalna district—*Contd*

Plant name/ family/ local name	Uses
<i>Launaea procumbens</i> (Roxb.) Ramayya and Rajgopal. Asteraceae Pathri	Whole plants or a bunch of plants is directly given as fodder grass to animals to remove internal parasites like worms.
<i>Leonotis nepetifolia</i> (L.) R. Br. Lamiaceae Deepmal	Seeds of the plant are used for avoiding sterility in cattle. Also if cattle do not become fertile after barren period, seeds are directly given with bread, till the animal shows furure.
<i>Plumbago zeylanica</i> L. Plumbaginaceae Chitrak	Root paste is externally applied on local inflammation, inflammation caused by any internal injury.
<i>Plumeria rubra</i> L. Apocynaceae Son-chapha	Pods broken into pieces are boiled in buffalo or cow milk; seeds are given as antidote for snakebite.
<i>Ricinus communis</i> L. Euphorbiaceae Erand	Leaf juice is given orally to cure indigestion, constipation, and gas trouble.
<i>Semecarpus anacardium</i> L.F. Anacardiaceae Bibba	Seeds are given to animal for increasing hunger. Also seed oil from is applied for curing foot and mouth diseases. Oil is applied on all infections like maggots, lice on foets or any part of animal.
<i>Solanum virginianum</i> L. Solanaceae Bhui Ringani	Dried fruit powder mixed with <i>vanaspati ghee</i> is directly applied to eye for curing eye sight problem like cataract.
<i>Sorghum durra</i> (Forsk.) Stapf var. <i>fecundum</i> Snowden. Poaceae Maladandi	Seed powder mixed with alum are burnt and made into small pills by adding water. Pills are given to the animals to cure anaemia.
<i>Tamarindus indica</i> L. Caesalpiniaceae Chinch	A leaf of the plant mixed with soil of ant hill is applied externally to the back bone or femur bone to cure back quarter disease in animal.
<i>Tectona grandis</i> L.F. Verbenaceae Sagwan	Seed powder infusion is given to animal orally for curing indigestion and tympani; also useful if animal shows signs of insecticide and herbicide poisoning.
<i>Terminalia crenulata</i> Roth. Combretaceae Sadoda	Pinch of bark powder is applied externally on chronic infection for early healing.
<i>Triumfetta pentandra</i> A. Tiliaceae Chota-landga	Root is used in premature delivery or abortions against retained placenta.
<i>Withania somnifera</i> (L) Dunal in DC. solanaceae Askand	Mixture of root powder along with seed oil of <i>Madhuca indica</i> is given along with fodder for curing weakness and maintaining animal in healthy condition.

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