

An Epidemiological Study on Ethnoveterinary Practices Prevalent in Gwalior Region of Madhya Pradesh

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ABSTRACT Plants and animals are two consecutive factors of this living world. Both are interdependent and connected to each other. As plants are producers of nature, similarly animals are also important contributors of it. They both play an important role in stability of nature. In view of this, animal health particularly of cattle has huge emphasis on our economy. The present paper deals with some specific diseases of cattle and their treatment by locally available herbal medicines, which are found to be highly effective and beneficial.

INTRODUCTION

Cattle play a very important role in Indian society. They are the key source of the Indian economy also. The word cattle deals with milk yielding animals particularly cow (*Bos indicus*), buffalo (*Bos bubbalcus*) and goat (*Capra*). Attention must be paid to the maintenance of health and working ability of cattle. They must be protected from diseases. Their ill health not only affects the productivity but also imposes impact on environment including ourselves. The cattle rearers are mostly poor citizens who are unable to afford allopathic costly treatment procedures, secondarily they do not have faith on allopathic medicines. They mainly rely on their own traditional practices of treatment which chiefly includes treatment practices by the use of plants and their products.

Gwalior district is among the large districts of Madhya Pradesh, having approximately 6.7 lakh population of cattle. Six breeds of buffaloes are common in India. Out of these, four varieties: (i) Surti (ii) Mehsana (iii) Murrah and (iv) Zafrabadi are reared in Gwalior district. Average daily milk yield per buffalo is 4.5-10 litres per day. Cows reared in Gwalior are Grey lyre horn, Wide forehead, Desi, Malvi and cross-breed. Average milk yield per cow is 3.5-7 litres per day.

Two breeds of goat - Jamunapuri and Barbari are mostly reared in and around Gwalior. Male goats are mainly raised for meat. Majority of goats are natural feeders, rarely given grains and good fodder in the study area, hence they are average milk producers yielding 0.5 to 4 litres milk. Goat manure is very good for soil.

The owners of cattle, folk practitioners, milkmen and farmers of society treat diseased cattle with the help of local herbs and traditionally known plants. A large number of workers had collected various valuable information on the use of herbal practices in various regions of India. Some have worked for liver problems of cattle and found out their herbal treatment (Girach et al. 1998). Commendable work has been done in north-eastern regions for various digestive, skin, injury and other problems of cattle (Jain and Shrivastava 2003). Even such medicines are found to be useful in brain fever, ectoparasitism (Tiwari and Pande 2006), endoparasitism (Nag et al. 2007) and fractured bone and eye watering (Kumar and Nagayya 2017).

Objective

The main aim of the study is to find out the effective medicines for cattle by using traditional recipes of plants and their products and to popularize them.

METHODOLOGY

For the study 16 localities in Gwalior city and 30 villages around Gwalior were selected. The

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method of investigation is mainly interviewing and survey method which includes set of questionnaire regarding the disease, causative agent, symptoms, plants used in treatment, mode of administration of drugs, dosage and their effects on animals.

RESULTS AND DISCUSSION

The villagers and cattle rearers mainly rely on the plants and their products for the treatment of their livestock as they are safe and easily available in their surroundings. The present paper deals with some specific diseases of cattle and their treatment by locally available herbal medicines, which are found to be highly beneficial. The people of that area have full faith in these medicines which are found to be very effective and harmless. Most of the recipes used by villagers of the region are different from the observations of other investigators in different regions of India. Even for similar ailment like fever and diarrhoea different plant recipes are used (Jain and Kadel 2006). Remarkable work has been done in Andhra Pradesh, Tamil Nadu, Karnataka (Narayan and Rao 2015; Manoranjotham and Kamaraj 2016; Kumar and Nagayya 2017), Vidarbha, Rajasthan (Kulkarni et al. 2014; Dudi and Meena 2017), Agra and Betul regions (Singh et al. 2005; Patil and Deshmukh 2015), but still this knowledge is in danger of extinction, which needs to be systematized and standardized. Present study has been done to emphasize the role of medicinal plants for the well-being of cattle in Gwalior region of Madhya Pradesh.

Table 1 shows some specific ailments of cattle, followed by plants used in their treatment, family, local name of plant and their mode of administration.

CONCLUSION

Ethno-veterinary medicines are thus found to be highly effective in treating various ailments of cattle. People have faith in them since generations. They are beneficial, harmless and easily affordable for the society.

RECOMMENDATIONS

It is required that this traditional knowledge should reach everyone and for this its systematization and documentation is must. With this, it is also necessary to conserve our natural flora of medicinal plants by planting new and preserving existing.

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Table 1: Major ailments of cattle and their treatment

Ailment	Plant used in treatment	Family	Local name	Mode of treatment
Constipation	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	About 20 – 30 leaves of <i>Azadirachta</i> , <i>Calotropis</i> leaves, <i>Allium</i> bulbs are grinded, mixed in water and given twice for 3- 4 days.
	<i>Allium sativum</i> L. <i>Calotropis procera</i> Aiton, I. Br.	Liliaceae Asclepiadaceae	Piyaz Ak	
	<i>Trachyspermum ammi</i> (L.) Sprague	Apiaceae	Ajwain	200 gm of <i>Trachyspermum</i> are dissolved in 1 litre water and given twice a day for 3-4 days.
	<i>Cannabis sativa</i> L.	Cannabaceae	Ganja	20 seeds are fried and mixed with jaggery and given once a day.
Bloat	<i>Zingiber officinale</i> Rosc.	Zingiberaceae	Adrak	Decoction of 50 gm rhizome of <i>Zingiber</i> , 50 gm <i>Curcuma longa</i> , 200 gm jaggery in 1.5 litre water called ontu is given.
	<i>Curcuma longa</i> L. <i>Acacia nilotica</i> (L.) Willd ex Delile ssp. indica (Benth.) Hill. <i>Azadirachta indica</i> A. zuss	Zingiberaceae Mimosaceae	Haldi Babool	21 thorns of <i>Acacia nilotica</i> and 50 gm salt boiled in 1 litre water is given to cattle.
Dysentery	<i>Calotropis procera</i> Aiton I. Br.	Meliaceae	Neem	200 gm leaves of <i>Azadirachta</i> , grinded and mixed with salt and given once a day for 3-4 days.
	<i>Trachyspermum ammi</i> (L.) Sprague	Asclepiadaceae	Ak	Roots of <i>Calotropis</i> are grinded and mixed with 1 litre butter milk and given twice a day for two days.
Diarrhoea	<i>Allium cepa</i> L. <i>Piper nigrum</i> L.	Apiaceae Liliaceae	Ajwain Piyaz	50 gm <i>Trachyspermum ammi</i> and 4 bulbs of <i>Allium cepa</i> are grinded and mixed with jaggery to form balls. 1 ball is given twice for 2 days.
	<i>Triticum aestivum</i> L.	Apiaceae	Kali mirch	50 gm <i>Piper</i> in 100 gm ghee or butter is given to the cattle.
Food Poisoning	<i>Triticum aestivum</i> L.	Poaceae	Genhu	Grinded raw grains of <i>Triticum</i> are boiled in water, cooled (kohri) and fed to cattle once for 3 days.
	<i>Linum usitatissimum</i> L. <i>Allium sativum</i> L.	Linaceae Liliaceae	Alsi Lahsun	500 ml Linseed oil is given for 3 days. 3-4 bulbs of <i>Allium sativum</i> boiled in 100 ml mustard oil is given to wet grass poisoning in goats.
Gastroenteritis	<i>Tamarindus indica</i> L. <i>Zingiber officinale</i> Rosc.	Caecelpinaceae Zingiberaceae	Imli Adrak	300 gm pods of <i>Tamarindus</i> and 150 gm of <i>Zingiber</i> rhizome are grinded with 20 gm salt and given once to the affected cattle

Table 1: Contd...

Ailment	Plant used in treatment	Family	Local name	Mode of treatment
Foot and Mouth Disease	<i>Ferula asafoetida</i> L.	Apiaceae	Heeng	10 gm <i>Ferula</i> with 20 gm Mustard is fried, dissolved in 500 ml butter milk and given to the cattle once a day for 3 days. Grinded leaf paste of <i>Acacia</i> is applied on the boils and ulcers of cattle.
	<i>Brassica campestris</i> L.	Brassicaceae	Sarson	
Foot Rot	<i>Acacia nilotica</i> (L.) Willd ex Delile ssp. indica (Benth.) Hill.	Mimosaceae	Babool	100 gm <i>Curcuma</i> powder and 100 gm salt mixture is applied over the affected part of cattle. 100 gm <i>Acacia</i> + 50 gm salt boiled in 100 ml water, then luke warm water is poured on the affected part. Poultice of <i>Feronia</i> leaves is applied on the affected part.
	<i>Curcuma longa</i> L.	Zingiberaceae	Haldi	
Pharyngitis	<i>Acacia catechu</i> (L. F.) Willd.	Mimosaceae	Kaththa	10 gm grinded roots of <i>Balanites</i> , mixed with 500 ml butter milk is given to the affected cattle. Roots of <i>Ricinus</i> are tied on the neck of suffered cattle. Poultice of <i>Eucalyptus</i> leaves is applied on joints. 50 ml juice of mixture of <i>Citrus limona</i> and <i>Allium</i> is given twice a day for 3 days.
	<i>Feronia limonia</i> (L.) Swingle	Rutaceae	Kainth	
Rheumatism	<i>Balanites aegyptiaca</i> (L.) Delile	Balanitaceae	Hingot	Fresh juice is squeezed into the nostrils of affected cattle. 10 gm leaves paste of <i>Azadirachta</i> is given with chappati twice a day for 3 days to the affected cattle. Leaf paste of <i>Cajanus</i> is applied on the bleeding wound till healing. 10 – 15 leaves of <i>Ficus</i> is mixed with 250 gm jaggery to form balls, one ball is given twice a day till recovery. Decoction of <i>Azadirachta</i> is used to clean the affected area and then grinded fruit powder of <i>Balanites</i> is applied over it. Ticks and mites can be removed by feeding 200 – 300 gm <i>Allium</i> to the cattle per day. About 1 kg green leaves of Bamboo is given to fed to the parturated cattle.
	<i>Ricinus communis</i> L.	Euphorbiaceae	Andi	
Hypothermia	<i>Eucalyptus umbellata</i> Dum. Burm.f.	Myrtaceae	Nilgiri	100 gm grinded roots of <i>Balanites</i> , mixed with 500 ml butter milk is given to the affected cattle. Roots of <i>Ricinus</i> are tied on the neck of suffered cattle. Poultice of <i>Eucalyptus</i> leaves is applied on joints. 50 ml juice of mixture of <i>Citrus limona</i> and <i>Allium</i> is given twice a day for 3 days.
	<i>Citrus limona</i> (L.)	Rutaceae	Nimbu	
Wound	<i>Allium sativum</i> (L.)	Liliaceae	Lahsun	Fresh juice is squeezed into the nostrils of affected cattle. 10 gm leaves paste of <i>Azadirachta</i> is given with chappati twice a day for 3 days to the affected cattle. Leaf paste of <i>Cajanus</i> is applied on the bleeding wound till healing. 10 – 15 leaves of <i>Ficus</i> is mixed with 250 gm jaggery to form balls, one ball is given twice a day till recovery. Decoction of <i>Azadirachta</i> is used to clean the affected area and then grinded fruit powder of <i>Balanites</i> is applied over it. Ticks and mites can be removed by feeding 200 – 300 gm <i>Allium</i> to the cattle per day. About 1 kg green leaves of Bamboo is given to fed to the parturated cattle.
	<i>Citrus limonia</i> (L.) Burm.f.	Rutaceae	Nimbu	
Scabies	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Fresh juice is squeezed into the nostrils of affected cattle. 10 gm leaves paste of <i>Azadirachta</i> is given with chappati twice a day for 3 days to the affected cattle. Leaf paste of <i>Cajanus</i> is applied on the bleeding wound till healing. 10 – 15 leaves of <i>Ficus</i> is mixed with 250 gm jaggery to form balls, one ball is given twice a day till recovery. Decoction of <i>Azadirachta</i> is used to clean the affected area and then grinded fruit powder of <i>Balanites</i> is applied over it. Ticks and mites can be removed by feeding 200 – 300 gm <i>Allium</i> to the cattle per day. About 1 kg green leaves of Bamboo is given to fed to the parturated cattle.
	<i>Balanites aegyptiaca</i> (L.) Delile.	Balanitaceae	Hingot	
Placenta Retention	<i>Allium cepa</i> L.	Liliaceae	Piyaz	Fresh juice is squeezed into the nostrils of affected cattle. 10 gm leaves paste of <i>Azadirachta</i> is given with chappati twice a day for 3 days to the affected cattle. Leaf paste of <i>Cajanus</i> is applied on the bleeding wound till healing. 10 – 15 leaves of <i>Ficus</i> is mixed with 250 gm jaggery to form balls, one ball is given twice a day till recovery. Decoction of <i>Azadirachta</i> is used to clean the affected area and then grinded fruit powder of <i>Balanites</i> is applied over it. Ticks and mites can be removed by feeding 200 – 300 gm <i>Allium</i> to the cattle per day. About 1 kg green leaves of Bamboo is given to fed to the parturated cattle.
	<i>Bambusa arundinacea</i> (Retz.) Willd.	Poaceae	Bans	

Table 1: Contd...

Ailment	Plant used in treatment	Family	Local name	Mode of treatment
Prolapse	<i>Mangifera indica</i> L.	Anacardiaceae	Aam	1 -2 kg leaves of <i>Mangifera</i> is given to discharge the placenta.
	<i>Cuscuta reflexa</i> Roxb.	Cuscutaceae	Amarbel	50 gm <i>Cuscuta</i> is grinded and mixed with 300 – 400 ml water and given to the cattle.
Mastitis	<i>Coriander sativum</i> L.	Apiaceae	Dhania	200- 500 gm leaves of <i>Coriander</i> is fed to the cattle.
	<i>Ferula asafoetida</i> L.	Apiaceae	Heeng	<i>Ferula</i> is dissolved in water and applied on the affected part.
Brucellosis	<i>Brassica campestris</i> L.	Brassicaceae	Sarson	Affected udder is washed with cold water and then mustard oil with salt is applied over it.
	<i>Trachyspermum ammi</i> (L.) Sprague	Apiaceae	Ajwain	50 gm <i>Trachyspermum</i> , 100 gm
	<i>Zingiber officinale</i> Rosc.	Zingiberaceae	Adrak	dried <i>Zingiber</i> and 200 gm bark of <i>Azadirachta</i> are grinded and
	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	given with fodder to avoid abortion. Water soaked jute cloth is tied in pelvic region to avoid abortion in summers.
Agalactia	<i>Cajanus cajan</i> (L.) Huuth	Fabaceae	Arhar	Husk, <i>Cajanus</i> , <i>Lens</i> and oil cake
	<i>Lens culinaris</i> Medic.	Fabaceae	Masoor	of mustard is given with fodder.
	<i>Cuminum cyminum</i> L.	Apiaceae	Zeera	100 gm <i>Cuminum</i> , 200 gm
	<i>Trigonella foenum-graecum</i> L.	Fabaceae	Maithi	<i>Trigonella</i> are mixed with 500 gm jaggery to form balls, 1 ball is given once a day for 4 – 5 days.
Panting	<i>Carissa carandus</i> L.	Apocynaceae	Karonda	Leaves of 100 gm <i>Carissa</i> , 100 gm
	<i>Lawsonia inermis</i> L.	Lythraceae	Mehndi	<i>Lawsonia</i> and 100 gm <i>Acacia</i> are
	<i>Acacia catechu</i> (L. F.) Willd.	Mimosaceae	Kattha	grinded and dissolved in water and given to the affected cattle.