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Deepak Chand Meena
 Dairy Extension Division,
 National Dairy Research
 Institute, Karnal, Haryana,
 India

Sanchita Garai
 Dairy Extension Division,
 National Dairy Research
 Institute, Karnal, Haryana,
 India

Sanjit Maiti
 Dairy Extension Division,
 National Dairy Research
 Institute, Karnal, Haryana,
 India

Ninad Bhatt
 LPM Division, National Dairy
 Research Institute, Karnal,
 Haryana, India

BS Meena
 Dairy Extension Division,
 National Dairy Research
 Institute, Karnal, Haryana,
 India

Corresponding Author:
Deepak Chand Meena
 Dairy Extension Division,
 National Dairy Research
 Institute, Karnal, Haryana,
 India

Ethno-veterinary practices followed by *Raika* pastoralists of Rajasthan: A descriptive study

Deepak Chand Meena, Sanchita Garai, Sanjit Maiti, Ninad Bhatt and BS Meena

Abstract

The present study describes the traditional knowledge, practices, belief and skills of *Raikas* for treating their animals like goat, sheep and camels. *Raikas* are the nomadic livestock rearing group of Marwar region in Rajasthan. This study was conducted in Marwar region of Rajasthan which is highest populated region of *Raikas*. *Raikas* were seen using their traditional knowledge for treatment of many diseases like Bloat, Surra, Jaundice, Khurpak (foot and mouth diseases), Gogla (bottle neck), Camel Pox etc. The majority of *Raikas* have been using local shrub, root of plant, stem, local spices and condiments and offering pray to deity for treating their animals.

Keywords: Ethno-veterinary, pastoralists.

Introduction

Ethnoveterinary medicine (EVM) is the study of traditional practices of veterinary medicine and validating their use, benefits and using them further for treatment purpose. (Köhler-Rollefson and Bräunig, 1998) [13]. Ethno-veterinary medicine comprises the traditional management of veterinary diseases, their remedies, and the spiritual elements associated with the healing procedures practiced by a local community (Mathias, 2004; Mathias-Mundy and McCorckle, 1996; Yineger *et al.*, 2008) [18, 19, 20]. EVM is famous due to cost effective and dynamic role (Warren, 1991). EVM can provide useful alternatives to conventional animal health care (Kumar, 2002) [17]. The mode of transfer and documentation of indigenous veterinary knowledge has been, and still is, oral and chances of partial or total loss of accumulated medical heritage is more likely (Longuefosse and Nossin, 1996; Yineger *et al.*, 2008) [21, 20]. In Marwar region the use of Ethnoveterinary medicine is mostly followed by pastoralists. Marwar (also called Jodhpur region) is a region of southwestern Rajasthan state in North Western India. A total of 9 pastoral communities are found in Rajasthan and they are *Raika*, *Charan*, *Sindhimuslim*, *Ahir*, *gujjar*, *Gairi*, *Rajput*, *Jat*, *Meghwal*. The *Raika* is the biggest pastoralists in whole India (Rollefson *et al.*, 2004). There are two types of *Raika* described during the colonial period that is Maru and Godwar *Raika*. Maru *Raika* known as camel rearers and Godwar *Raika* known as sheep rearers (Rollefson 2000) but nowadays both *Raika* types are rearing camel as well as sheep. The *Raika* are distributed in Haryana, Madhya Pradesh, Rajasthan etc., but, maximum population of the *Raika* pastoralists are found in Rajasthan. The *Raika* also known as *Rebari*, *Rabha*, *Bhopa*, *Devasi*, *Utwalle*. Total population of the *Raika* is 107000 (2011 census) and amongst which population of the *Raika* in Rajasthan is 650000. The *Raika* is one of the largest groups of livestock herders inhabiting in the western districts of Rajasthan (Geerlings, 2001) [11]. The *Raika* rear camel not just for earning but they also believe its heritage for them. (Rathore 2001) [9]. *Raikas* have been using camel at the time of marriage for Toran (Entrance at bride home) and giving camel as a dowry (Rollefson 1995, Khanna 1998) [11]. *Raikas* have made use of large number of indigenous plants for treating their animals especially sheep in their route of migration (Martin, M *et al.*, 2009; Bachmann, F. 1998) [15, 14]. Due to less fertile soil in Marwar region, *Raikas* are well suited in agriculture along with livestock rearing. The origin of the *Raikas* according to Hindu mythology is from the goddess Parvati, who created first camel animal from lump of a clay. She was unable to control the beast and requested her husband Shiva for help. Shiva used piece of his skin and drops of his sweat to make the *Raika* to control the animal (Rollefson, natural history). The *Raika* from Rajasthan are divided into two groups, the *Maru* and *Godwar*. The *Maru Raikas* are distributed throughout the state with major concentration around Jodhpur, Bikaner, Palli district of Rajasthan. The *Godwar Raikas* are concentrated in southern part of Palli district, Jalore, Sirohi, Barmer district of Rajasthan. The *Raika* are believed to be the sub caste of *Rajput* because they share many clans similar to *Rajput* like *Rathod*, *Solanki*, *Bhati*, *Parmar*

etc. These clans are called 'NAKH' in the *Raika*. These clans are further sub-divided in *SHAKHS* (branches). The *shakhs* are also known as "VIHOTAR" which means Vis+Sau+Ter (20+100+13=133) e.g. *Aal, Bhopu, Bhim, Chauhan, Devasi, Hathol, Garsar, Jamla, Navor, Pahwala, Patval, Ranva, Shilora* etc. every year after monsoon. It is very interesting to see that *Raika* have good traditional knowledge regarding use of shrub, local plant at local condition for treatment of their animals (Martin *et al.* 2001, Bachmann *et al.* 1998) [14]. The *Raika* used to migrate with their animal camels, sheep, goats (Table 1) towards eastern Rajasthan, Haryana, Madhya Pradesh.

Table 1: Livestock Breeds reared by the *Raika* pastoralist

Sr no.	Animals	Breeds
1	Camel	Mewar
		Marwari
		Malvibikaneri
		Jaisalmeri
2	Goat	Marwari
		Sirohi
3	Sheep	Boti (Marwari)
		Bhagali (Sonadi)

Contribution of the *Raika* pastoral community

- The *Raika* pastoralists developed a variety of livestock breed based on their traditional knowledge and they are selling their developed breed in all around the India.
- The *Raika* provides service to village near their grazing land and through migratory route they supply manure to farmers.
- The *Raikas* are disseminating their traditional knowledge regarding animal's disease treatment to another community.
- The *Raikas* are helping to conserve the biodiversity of the local ecosystem.
(*Raika* bio- cultural protocol, 2009)

Materials and Methods

The aim of this study was general understanding of ethno-veterinary practices followed by *Raikas*. The information was collected regarding treatment of their animals for different diseases using their traditional knowledge that has been passing from generations. Rajasthan is divided in nine regions. Among these nine regions, Marwar region was selected purposively for this study. Two districts namely Pali and Jodhpur were selected and Bali and Bilara tehsils was selected from each district, respectively. From each district three villages were selected randomly and from each village twenty respondents were selected randomly. So a total of 120

respondents were selected for whole study and participatory method and personal interviewing method was followed for collecting the information. Each participant was confronted with several questions and thorough discussion was done about the practices followed in their particular tract. Villages were visited around 9-10 times for collecting and recording the data by performing personnel interview of all the participants. Finally the data was compiled based on the information collected and results were interpreted as shown in the table. 2.

Result and discussion

Life of *Raikas* of Rajasthan is very difficult due to unavailability of feed and fodder for their animals so they used to migrate other places like Madhya Pradesh, Uttar Pradesh, and Haryana in search of fodder and in rainy season they used to stay in their native places. Group of their family is known as "Dera" and group of 8-10 families migrates together, there are 3000-4000 sheep's in one dera. Out of 8-10 families they choose one leader who is known as *Patel* or numberdar. Patel should have a good relation with other community members and government officers. Marwar region of Rajasthan among the *Raika* pastoralists have migratory life, so they are far away from modern ethno-veterinary practices. So they believe in treating their animal disease through their traditional knowledge like use of roots of plants and home spices and for some disease they are offering pray to god Singh *et al.* (2013) [3]. This study was conducted among *Raikas* of Rajasthan and found that most of the *Raikas* are illiterate and their primary source of income was from animals. They are earning income through selling animals, milk, wool etc. but due to unavailability of modern technology they are treating their animal through traditional knowledge. A total of 24 practices were followed by *Raikas* for treating their animals like sheep, goat and camel. *Raikas* were mostly using alum for treatment of many diseases and alum is also known as "Ramban" among them due to many uses. They were using turpentine oil, black salt etc. for treating Bloat, Surra disease in animals. The disease was mainly seen in rainy season and in these disease animal stops to intake fodder and water. So treatment of this disease mainly followed four practices. For fatgiya disease they used arid fruit kachri such kind of result also found by Dheeraj *et al.* 2013. In case of camel pox mix of vanaspati ghee and camel milk was used by them. They were using Adusa tree flower tea mostly for treating Jaundice and in case of outbreak they offer pray to God (IIRR 1998). So there were many traditional practices followed by them which are enlisted below in table.2.

Table 2: Ethno-Veterinary Practices followed by *Raikas* for treating their animal

ITK No.	Purpose	Animal	Procedure
1.	Bloat	Camel, Goat, Sheep	Turpentine oil-100 ml Black salt-100gm Hing-30gm Linseed oil-500ml First take 500ml linseed oil than mix turpentine oil after that 100gm black salt mix with turpentine oil and linseed oil than mix Hing. After that shake all the materials in 1 bottle than provide drink to animals and should not be provide water up to 2hrs
2	Swelling in intestine	Camel	Boil kali jiri (<i>Centratherum Anthelminticum</i>) with water up to 30 min than provide to animal
3	Broken the legs (Difficult to walk)	Camel	Cut the bark of babul (<i>Vachellia nilotica</i>) and mix with boil water for 1hrs and then that boiled water is provided to animals for 3 days
4	Neck sprain	Camel, Goat, Sheep	Applied hot iron on neck

5	Surra (High fever Less appetite)	Camel	1. Jaggary mix with water and provide to animals 2. Put cold water on animal's head 3. Provide onion to animals as much as possible 4. Nirgandi (vitex negundo)+ root of drumstick + pitpada+ desi ajavayan + black salt + rock salt every items 250 gm and 15 gm hing and mix together and make powder and take little powder mix with almost 70gm ghee and provide to animals for 2 times in 1 days and for 5-6 days
6	Diarrhoea	Sheep & Goat	Alum + jaggary, less alum but more jaggary mix both and boil with water for 30 mins and keep whole night and provide to animals in early morning for 4-5 days
7	Jaundice (piliya)	Sheep, Goat	1. Make tea of Adusa tree (<i>Adhatoda vasica</i> Nees) flower and given to animals for 7-8 days 2. Wood of palash tree and boil with water for 2-3hrs and provide to animals 3. Visit to temple
8	Itching	Sheep, Goat	1. Desi babul and leaves of mehndi mix with cold water and given to animals
9	Blue tongue disease (swelling of nose Purple color of tongue)	Sheep, Goat	Take banana and dip gingelly oil and give to animals after that give alovera (first make slice of alovavera) and given to animals for 7 days
10	Broken legs (thakela) (Difficult to walk)	Sheep, Goat	1. Give desi eggs 2. Alum + pure milk given to animals for 4 to 5 days 3. Hot iron are applied 4. Mix of castor oil, water, turmeric, ghee, jaggary, ajwain and guar patha are given to affected animals
11	Fever		Alum + turmeric + clove + rock salt mix all the materials and make powder than put in the hot water and given to animals for 2-3 days
12	Fatgiya	Sheep	1. Very rare chance to save of animals 2. Given powder of kachri (<i>Cucumis melo</i>) 3. Pray to god
13	Licking soil by animals (pica)	Camel	Alum + fenugreek + mustard oil mix all the items and provide to animals for 15-20 days but one day provide other days should skip
14	Bloat	Camel	Husk of isabgol mix with water and given to animals
15	Internal parasite (worms)	Sheep/goat	Feeds seeds of pumpkin, first dry all the seeds of pumpkin for 3-4 days than make powder of the dry seeds give that seeds mix with fodder and give to affected animals
16	Kidney stone (stopping of urine)	Goat/sheep	Onion + juice of lemon + garlic + apple (upper layer) First cut the onion and garlic and keep in one utensils than put juice of lemon and apple and give some heat boil until onion and should mixture properly than that mixture gives to animals
17	Flatulence	Camel	1. Leaves of cassia angustifolia (sonamukhi) fed to the animals for 4-5 days 2. Give castor oil
18	Constipation	Goat/sheep	Leaves powder of custard apple mixed with mustard oil and given to animals
19	blood in urine (hematuria)	Sheep/goat	Infusion of seeds of fenugreek given to animals for 3 days and twice in 1 days
20	Ectoparasite	Sheep/goat	1. Make paste of neem leaves and applied to affected animals 2. Roots of grass and mustard oil mix and make paste and applied on the animals
21	Blood clotting	Camel	Put mustard oil on head of camels
22	Pneumonia (Weakness Not taking food Coughing Cold)	Camel	1. Mixture of saunth (zingiber officinale) and jaggary in lukewarm water and feed to animals 2. Methi + mustard oil feed to camels
23	Snake bite	Camel	1. Bark paste of gular (<i>ficus racemose</i>) and provide to feed root of chhoti buti (<i>Aerva lanata</i>) 2. Ghee + black pepper 3. Roots of chhoti buti give to camel directly in mouth
24	Camel Pox	Camel	1. Vanaspati Ghee + Camel milk and applied on affected parts of animals

Conclusion

From this study, it can be concluded that *Raika* pastoralists of Rajasthan have sufficient traditional knowledge about treating and rearing of their animals. Traditional knowledge used for treatment of animal is useful for livestock healing and methods are suitable for local environment. In addition they must be educated further so that they can take advantage of modern knowledge for rearing and treating diseased animal. The potency of this traditional medicine must be researched further in labs. The one that will be providing good results must be explored further. Local people should be motivated to disseminate their knowledge and after proper authenticating, herbs must be documented and spread at world-wide level. Small industries can be opened to produce final product in large masses. This can further play a good role in raising the income and economy of *Raikas*.

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