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

Sushmita Shrivastava* and Rajesh S. Tomar

Amity Institute of Biotechnology, Amity University, Gwalior 474 005, Madhya Pradesh, India
*E-mail: rssush@gmail.com

KEYWORDS Cattle. Health. Medicinal Plants. Traditional

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 on 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, ecto-parasitism (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
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.

**REFERENCES**


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**Paper received for publication on June 2017**

**Paper accepted for publication on September 2017**
### Table 1: Major ailments of cattle and their treatment

<table>
<thead>
<tr>
<th>Ailment</th>
<th>Plant used in treatment</th>
<th>Family</th>
<th>Local name</th>
<th>Mode of treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipation</td>
<td><em>Azadirachta indica</em></td>
<td>Meliaceae</td>
<td>Neem</td>
<td>About 20 – 30 leaves of <em>Azadirachta</em>, <em>Calotropis</em> leaves, <em>Allium</em> bulbs are grinded, mixed in water and given twice for 3-4 days.</td>
</tr>
<tr>
<td></td>
<td><em>Allium sativum</em> L.</td>
<td>Liliaceae</td>
<td>Piyaz</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Calotropis procera</em> Aiton, I. Br.</td>
<td>Asclepiadaceae</td>
<td>Ak</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Trachyspermum ammi</em> (L.) Sprague</td>
<td>Apiaceae</td>
<td>Ajwain</td>
<td>200 gm of <em>Trachyspermum</em> are dissolved in 1 litre water and given twice a day for 3-4 days.</td>
</tr>
<tr>
<td>Bloat</td>
<td><em>Cannabis sativa</em> L.</td>
<td>Cannabaceae</td>
<td>Ganja</td>
<td>20 seeds are fried and mixed with jaggery and given once a day.</td>
</tr>
<tr>
<td></td>
<td><em>Zingiber officinale</em> Rosc.</td>
<td>Zingiberaceae</td>
<td>Adrak</td>
<td>Decotion of 50 gm rhizome of <em>Zingiber</em>, 50 gm <em>Curcuma longa</em>, 200 gm jaggery in 1.5 litre water called onti is given.</td>
</tr>
<tr>
<td>Volsulus</td>
<td><em>Acacia nilotica</em> (L.) Wild ex Delile ssp. indica (Benth.) Hill. <em>Azadirachta indica</em> A. zuss</td>
<td>Mimosaceae</td>
<td>Babool</td>
<td>21 thorns of <em>Acacia nilotica</em> and 50 gm salt boiled in 1 litre water is given to the cattle.</td>
</tr>
<tr>
<td>Dysentry</td>
<td><em>Calotropis procera</em> Aiton I. Br.</td>
<td>Asclepiadaceae</td>
<td>Ak</td>
<td>Roots of <em>Calotropis</em> are grinded and mixed with 1 litre butter milk and given twice a day for 2 days.</td>
</tr>
<tr>
<td></td>
<td><em>Trachyspermum ammi</em> (L.) Sprague</td>
<td>Apiaceae</td>
<td>Ajwain</td>
<td>50 gm <em>Trachyspermum ammi</em> and 4 bulbs of <em>Allium cepa</em> are grinded and mixed with jaggery to form balls. 1 bulb is given twice for 2 days.</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td><em>Allium cepa</em> L.</td>
<td>Liliaceae</td>
<td>Piyaz</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Piper nigrum</em> L.</td>
<td>Apiaceae</td>
<td>Kali mirch</td>
<td>50 gm <em>Piper</em> in 100 gm ghee or butter is given to the cattle.</td>
</tr>
<tr>
<td></td>
<td><em>Triticum aestivum</em> L.</td>
<td>Poaceae</td>
<td>Genhu</td>
<td>Grinded raw grains of <em>Triticum</em> are boiled in water, cooled (kohri) and fed to cattle once for 3 days.</td>
</tr>
<tr>
<td>Food Poisoning</td>
<td><em>Linum usitatissimum</em> L.</td>
<td>Linaceae</td>
<td>Alsi</td>
<td>500 ml Linseed oil is given for 3 days.</td>
</tr>
<tr>
<td></td>
<td><em>Allium sativum</em> L.</td>
<td>Liliaceae</td>
<td>Lahsun</td>
<td>3-4 bulbs of <em>Allium sativum</em> boiled in 100 ml mustard oil is given to wet grass poisoning in goats.</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td><em>Tamarindus indica</em> L.</td>
<td>Caecelpinaceae</td>
<td>Imli</td>
<td>300 gm pods of <em>Tamarindus</em> and 150 gm of <em>Zingiber</em> rhizome are grinded with 20 gm salt and given once to the affected cattle</td>
</tr>
<tr>
<td></td>
<td><em>Zingiber officinale</em> Rosc.</td>
<td>Zingiberaceae</td>
<td>Adrak</td>
<td></td>
</tr>
<tr>
<td>Ailment</td>
<td>Plant used in treatment</td>
<td>Family</td>
<td>Local name</td>
<td>Mode of treatment</td>
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<td>-----------------</td>
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<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Foot and Mouth Disease** | Ferula asafoetida L.  
Brassica campestris L. | Apiaceae  
Brassicaceae | Heeng  
Sarson | 10 gm Ferula with 20 gm Mustard is fried, dissolved in 500 ml butter milk and given to the cattle once a day for 3 days. |
|                  | Acacia nilotica (L.)  
Wild ex Delile ssp. indica (Benth.) Hill.  
Curcuma longa L. | Mimosaceae  
Zingiberaceae | Babool  
Haldi | Grinded leaf paste of Acacia is applied on the boils and ulcers of cattle. |
| **Foot Rot**    | Acacia catechu (L. F.) Willd.  
Feronia limonia (L.) Swingle | Mimosaceae  
Rutaceae | Kaththa  
Kainth | 100 gm Curcuma powder and 100 gm salt mixture is applied over the affected part of cattle. |
| **Pharyngitis** | Balanites aegyptiaca (L.) Delile  
Ricinus communis L.  
Eucalyptus umbellate Dum.  
Citrus limona (L.) Burm.f.  
Allium sativum (L.) | Balanitaceae  
Euphorbiaceae  
Myrtaceae  
Rutaceae  
Liliaceae | Hingot  
Andi  
Nimbu  
Lahsun | 10 gm grinded roots of Balanites, mixed with 500 ml butter milk is given to the affected cattle. Roots of Ricinus are tied on the neck of suffered cattle. Poultice of Eucalyptus leaves is applied on joints. 50 ml juice of mixture of Citrus limona and Allium is given twice a day for 3 days. |
| **Rheumatism**  | Citrus limona (L.)  
Azadirachta indica A. Juss.  
Allium sativum (L.) | Rutaceae  
Meliaceae  
Liliaceae | Nimbu  
Neem  
Lahsun | Fresh juice is squeezed into the nostrils of affected cattle. 10 gm leaves paste of Azadirachta is given with chappati twice a day for 3 days to the affected cattle. Leaf paste of Cajanus is applied on the bleeding wound till healing. |
| **Hypothermia** | Cajanus cajan (L.) Huth  
Ficus religiosa L.  
Azadirachta indica A. Juss.  
Allium cepa L. | Fabaceae  
Moraceae  
Meliaceae  
Liliaceae | Arhar  
Peepal  
Neem  
Piyaz | 10 – 15 leaves of Ficus is mixed with 250 gm jaggery to form balls, one ball is given twice a day till recovery. Decotion of Azadirachta is used to clean the affected area and then grinded fruit powder of Balanites is applied over it. Ticks and mites can be removed by feeding 200 – 300 gm Allium to the cattle per day. About 1 kg green leaves of Bamboo is given to fed to the parturated cattle. |
| **Wound**       | Cajanus cajan (L.) Huth  
Ficus religiosa L.  
Azadirachta indica A. Juss.  
Allium cepa L. | Fabaceae  
Moraceae  
Meliaceae  
Liliaceae | Arhar  
Peepal  
Neem  
Piyaz | 10 – 15 leaves of Ficus is mixed with 250 gm jaggery to form balls, one ball is given twice a day till recovery. Decotion of Azadirachta is used to clean the affected area and then grinded fruit powder of Balanites is applied over it. Ticks and mites can be removed by feeding 200 – 300 gm Allium to the cattle per day. About 1 kg green leaves of Bamboo is given to fed to the parturated cattle. |
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<th>Mode of treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolapse</td>
<td>Mangifera indica L.</td>
<td>Anacardiaceae</td>
<td>Aam</td>
<td>1 - 2 kg leaves of Mangifera is given to discharge the placenta.</td>
</tr>
<tr>
<td></td>
<td>Cuscuta reflexa Roxb.</td>
<td>Cuscutaceae</td>
<td>Amarbel</td>
<td>50 gm Cuscuta is grinded and mixed with 300 - 400 ml water and given to the cattle.</td>
</tr>
<tr>
<td>Mastitis</td>
<td>Coriander sativum L.</td>
<td>Apiaceae</td>
<td>Dhania</td>
<td>200- 500 gm leaves of Coriander is fed to the cattle.</td>
</tr>
<tr>
<td></td>
<td>Ferula assafoetida L.</td>
<td>Apiaceae</td>
<td>Heeng</td>
<td>Ferula is dissolved in water and applied on the affected part.</td>
</tr>
<tr>
<td></td>
<td>Brassica campestris L.</td>
<td>Brassicaceae</td>
<td>Sarson</td>
<td>Affected udder is washed with cold water and then mustard oil with salt is applied over it.</td>
</tr>
</tbody>
</table>

| Brucellosis | Trachyspermum ammi (L.) | Apiaceae | Ajwain | 50 gm Trachyspermum, 100 gm dried Zingiber and 200 gm bark of Azadirachta are grinded and given with fodder to avoid abortion. |
|             | Spangue                | Zingiberaceae | Adrak   | Water soaked jute cloth is tied in pelvic region to avoid abortion in summers. |
|             | Zingiber officinale Rosc. | Meliaceae | Neem     | |
|             | Azadirachta indica A. Juss. |          |          | |

| Agalactia | Cajanus cajan (L.) Huth | Fabaceae | Arhar    | Husk, Cajanus, Lens and oil cake of mustard is given with fodder. |
|           | Lens culinaris Medic. | Fabaceae | Masoor   | 100 gm Cuminum, 200 gm |
|           | Cuminum cymmin L.      | Apiaceae | Zeera    | Trigonella are mixed with 500 gm jaggery to form balls, 1 ball is given once a day for 4 - 5 days. |
|           | Trigonella foenum- graecum L. | Fabaceae | Maiti    | Trigonella are mixed with 500 gm jaggery to form balls, 1 ball is given once a day for 4 - 5 days. |

| Panting   | Carissa carandas L.     | Apocynaceae | Karonda  | Leaves of 100 gm Carissa, 100 gm |
|           | Lawsonia innermis L.    | Lythraceae | Mehndi   | Lawsonia and 100 gm Acacia are grinded and dissolved in water and given to the affected cattle. |
|           | Acacia catechu (L. F.) Willd. | Mimosaceae | Kattha   | |
|           |                         |              |          | |