

Ethnoveterinary Plants Used by Different Ethnic Groups of Indo Nepal Sub-Himalayan Terai Region of Rohilkhand Division of Uttar Pradesh State of India

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ABSTRACT: Indo Nepal Sub Himalayan Terai Region of Rohilkhand Division of Uttar Pradesh state mainly comprises of Pilibhit District extending to upto Nepal border. It is inhabited by Van Gujjar Tribe. An extensive survey was conducted during the period of 2015-2016, about the usage of various plants used as medicines for the treatment of different common animal diseases and disorders by Van Gujjars and other localites. During the field visits, 22 ethnoveterinary plant species belonging to 18 Families and 22 Genera have been enumerated. The plants are mostly used for the treatment of cold, fever, wounds, dysentery, cough, childbirth, intestinal worms, foot and mouth disease, etc.

I. INTRODUCTION

Indo Nepal sub Himalayan Terai region of District Pilibhit lies between 28° 54'N and 28° 60'N Latitude and 79° 37'E and 88° 27'E Longitude, having an area of 3765.7 sq. Km. of which 1.3% part is occupied by forests. It is a foothill region bordered by Nepal in the North, Lakhimpur Kheri in the East, Bareilly and Shahjahanpur districts in the West and South respectively.

Main occupation of Van Gujjars is rearing of buffaloes and sometimes cows for their earnings by selling the milk in nearby villages and markets. Pilibhit districts holds second position in having largest forest area of the state with a rich floral and faunal biodiversity. The inhabitant tribes and other ethnic groups are commonly using natural medicinal herbs for the sure cure of different veterinary ailments from generations. Experienced and old herbal practitioners pass their knowledge to the next generation through field trials. Therefore it was needed to record the local plants used by the tribal people in the treatment of animal diseases.

Various workers contributed a lot in the ethnoveterinary plants search from different localities of our country and abroad (Borthakur and Sarma, 1995; Sikarwar, 1996; McCorkle, 1996; Jain, 2000; Ghosh, 2002; Mistry *et.al.* 2003; Paul and Pal 2006; Mini and Sivadasan, 2007; Galav *et.al.* 2007; Salam *et.al.* 2013).

II. EXPERIMENTAL WORK

For this study, a survey was conducted during 2015-2016 for the proper enumeration of wild and locally growing plants used by the Van Gujjars for the treatment of various animal ailments. Information was obtained from then by live treatment practices, oral interviews, discussions with experienced herbalists, medicinemen and group heads (mukhiyas) etc. Regarding the vernacular names, mode and method of use, plant part used, administered dosages and dose intervals were also been recorded. Plant specimens were taxonomically identified by referring flora books, herbarium and published literatures (Hooker, 1876; Jain and Rao, 1977). The questionnaires were prepared following the method of Parabia and Reddy (2002). Herbarium from identified plant species were prepared and deposited in the Botany department of Upadhi PG college, Pilibhit.

III. RESULTS AND DISCUSSION

Identified plants are arranged alphabetically by their Botanical names with Family, local names followed by their index number. Thereafter, administration procedure for the treatment of different ailments has been mentioned as under:

1. Acacia catechu (L.f.) Willd. (Mimosaceae) 'Khair', GD 333.
Green leaves and flowers are given to pregnant cows and buffaloes for the normal and easy delivery of child.

2. *Adhatoda vasica* Medic.(Acanthaceae) ‘Vasaca’,GD 127.
150 ml decoction of green leaves is given orally 2-3 times a day for the cure of fever,cough and cold.It is also applied on the cattle’s body for the removal of ectoparasites.
3. *Abrus precatorius* L.(Fabaceae) ‘Gunj’,GD 112.
Mature fruits are crushed and given orally with wheat bread (Roti) for sexual excitement.
4. *Abutilon indicum* (L.) Sweet.(Malvaceae) ‘Kanghi”, GD 023.
Leaf paste is applied externally over the cattle’s body to kill lice.
5. *Achyranthes aspera* (L.) Amaranthaceae ‘Chirchita GD 100.
The leaf paste is applied on cuts and wounds to fasten healing and avoiding bacterial infections. Leaf juice is also used in insects bites and cleaning of warts and ulcers. Tribal and rural communities use fresh roots in easy expulsion of placenta after child birth.
6. *Allium sativum* L. (Liliaceae) ‘Lehsun’,GD 307.
Paste of the bulbs is made with mustard oil (*Brassica campestris*) and applied externally on the wounds 1-2 tmes daily till the cure.For the treatment of Diarrhea and dysentery, a decoction is prepared from the bulbs and green chillies and given orally 2-3 times a day.
7. *Asparagus racemosus* Willd. (Liliaceae) ‘Satavari’,G D 315.
A part of fresh root is applied on the swelling of udder for the treatment of mastitis. Similar paste is found equally effective in twice a day dose for the removal of ectoparasites from the cattle body.
8. *Azadirachta indica* A. Juss. (Meliaceae) ‘Neem’, GD 101.
Seed oil is applied externally on the body of cattle for the removal of ectoparasites and if applied in abscesses, get very promising results within a week. Seed oil is also used 2-3 times a day in the treatment of odema.
9. *Bombax ceiba* L. (Bombacaceae) ‘Semargulla’,GD 187.
Ripen and fresh flowers are used very commonly for the easy expulsion of placenta after child birth.
10. *Brassica campestris* L. (Brassicaceae) ‘Sarsoon’,GD 063.
Oil is applied externally over the wounds for the fast recovery and keeping house flies away from the affected parts.It also helps in the removal of ectoparasites from the cattle’s body.400 ml oil mixed with 5 gm *Ferula asfoetida* (hing) powder and orally given through bamboo tube for indigestion.
11. *Butea monosperma* (Lam.) Taib. (Fabaceae) ‘Dhak’,GD 083.
Gum of this plant is poured in the water and after proper mixing, solution is given orally to buffaloes in the case of uterine disorders.
12. *Boerhaavia diffusa* L. (Nyctaginaceae) ‘Gajpurna’GD 136.
Decoction of the plant is given orally in Bronchitis and liver problems.
13. *Calotropis procera* (Ait) R.Br. (Asclepiadaceae) ‘Akaua”GD 171.
Few drops of milky latex are applied locally over microbial infections. The poultice of fresh leaves is used to treat boils, swelling and inflammation.
14. *Cassia fistula* L. (Caesalpinaceae) ‘Amaltas’ GD 160.

The juice of the leaves is used to cure skin infections caused by bacteria and fungi ripen pods are given to cure flatulence and indigestion.

15. *Cissampelos pareira* L. (Menispermaceae) ‘GD 162
Extracts from fresh roots is used as antidote in snake and dog bite.
16. *Curcuma amada* Roxb. (Zingiberaceae) ‘Ama Haldi’ GD 116
100 gm rhizomes of *Curcuma amada* is ground and mixed with 10 gm alum and slightly warmed. Mixture is applied locally in fractured bones and relief from internal pains.
17. *Datura metel* Mill. (Solanaceae) ‘Datura’ GD 170
Mature leaves are slightly boiled in mustard oil and tied over the sprained parts of the body. A paste of aerial parts of the plant is made in sesame oil for cure of paralytic part of animal body.
18. *Ficus racemosa* L. (Moraceae) ‘Gular’ GD 104
Ripen fruits are found laxative to cure constipation in domestic animals.
19. *Cuscuta reflexa* Roxb. (Convulvulaceae) ‘Amarbel’ GD 184
Dried plants are powdered and this powder is given orally to cure cough and cold.
20. *Ipomoea fistulosa* L. (Convulvulaceae) ‘Besharam’ GD 210
In case of internal injuries, mature green leaves are warmed with mustard oil and these leaves are tied over the affected part.
21. *Lawsonia inermis* (Lytheraceae) ‘Mehendi’ GD 170
A paste is prepared from 150 gm fresh green leaves and the paste is given orally to heating cows and buffaloes after half an hour of intercourse for better conception.
22. *Ricinus communis* L. (Euphorbiaceae) ‘Arandi’ GD 173
100 ml oil is given through bamboo tube to infants and 200 ml is given to adults for flatulence and gastric disorders. Lime and mustard oil is warmed and tied on fractured bone under green leaf for quick recovery.

CONCLUSION

During this study 22 plant species were found to cure 20 very common animal diseases. Some of these herbs are giving very promising results. These findings on ethnoveterinary uses are based on interviews of ethnic and local people and published literature. Thus these findings have their own practical applications in their routine life. Among the documented ethnic practices, indigestion, flatulence, diarrhea, fever, childbirth and bone fracture are very commonly treated by the wild herbs that grow nearby. Therefore there is an urgent need to create an awareness in their new generation for proper cultivation and conservation of these medicinal plants for the future use and reference. Also, on the other hand, these formulations need further clinical trials to prove their efficacy and to develop new veterinary herbal drugs for effective treatment of different ailments.

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