

Traditional veterinary practices in south-eastern part of Chamoli district, Uttaranchal

Lalit Tiwari* and P C Pande

Department of Botany, Kumaon University, S S J Campus, Almora 263 601, Uttaranchal
E-mail: ltherbal@rediffmail.com

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Most of the people of south-eastern part of the Chamoli district, Uttaranchal live in remote areas and usually depend on the traditional medicines. The present investigation has brought to light some popular and frequently used prescription for domestic animals. In all, 72 plants important in ethnoveterinary, their mode of preparations and applications to the diseases and disorders are given.

Keywords: Ethnoveterinary medicine, Chamoli, Garhwal, Uttaranchal.

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According to an estimate of the World Health Organization, approximately 80% of the world's people in developing countries depend on traditional medicines for their primary health care needs¹. They use medicinal plants not only for human beings but also for their domestic animals. Since some of the traditional knowledge is vanishing very rapidly, such ancient practices need to be documented.

The south-eastern part of Chamoli district in the state of Uttaranchal is endowed with rich and diverse plant wealth. The area is inhabited by large section of rural population. People of this area usually practice agriculture for their eco-

nomie needs. Most of the population largely depends on plant resources growing in their surroundings to meet their requirements including ethnoveterinary herbal medicines. Survey of literature²⁻⁵ shows that very little attention has been paid to ethnoveterinary aspects of Chamoli district in Uttaranchal.

Methodology

Remote villages of south-eastern part of Chamoli district of Uttaranchal were surveyed and ethnoveterinary information was collected through interviewing local medicine men and experienced people. The surveyed areas were Dewal, Tharali, Narayan-Bagad, Karn-Prayag and Gairsain blocks of Chamoli district (Fig. 1). Collection of data and field work were

*Correspondent author

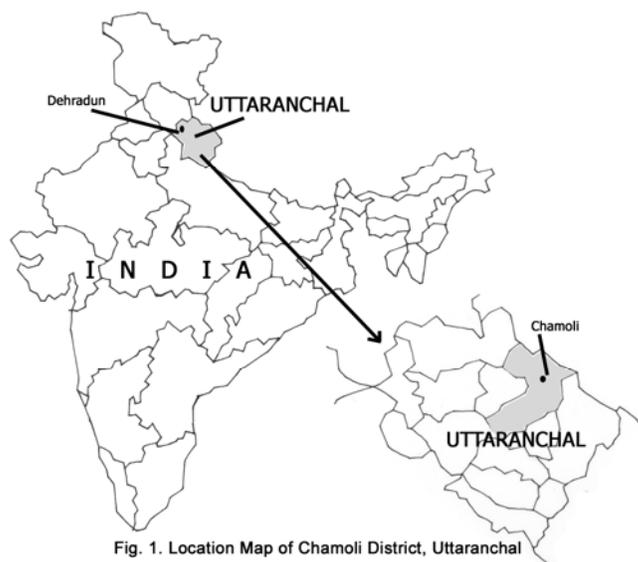


Fig. 1. Location Map of Chamoli District, Uttarakhand

done according to usual ethnomedicinal studies^{6,7}. The information was further verified by cross checking with other knowledgeable persons of the study area. The plants were identified with the help of floras and voucher specimens were deposited in the herbarium of Botany Department, Kumaon University, S S J Campus, Almora.

The ethnoveterinary medicinal data are presented alphabetically, disease and disorders wise. Local name of plant, scientific name, mode of application and parts used, etc. are given. Details of the source of information are with the author. The main informants were: (1) Shri Chet Singh, Village- Aroda, Post Office- Aroda, Gairsain, (2) Shri Ganga Ram, Village- Hat-Kalyani, Dewal, (3) Shri Girish Mishra, Village- Hat-Kalyani, Dewal, (4) Shri Hari Datt Uniyal, Village - Hari-Pur, Post Office- Ulgara, Dewal,

(5) Shri Jalam Singh, Village- Salyana, Post Office- Salyana, Gairsain (6) Shri Jawahar Singh, Village- Uget, Post Office- Parkhali, Narayan-Bagad, (7) Shri Madan Singh Rawat, Village- Kheti, Post Office- Adibadri, (8) Shri Pratap Singh Rawat, Village- Tungeshwar, Post Office- Tungeshwar, (9) Shri Puskar Singh, Village- Hat-Kalyani, Dewal, (10) Shri Soban Singh, Village- Aroda, Post Office- Aroda, Gairsain. All villages are situated in District Chamoli.

Results and Discussion

In all, 72 plants species are used by the natives in the treatment of 34 diseases of domestic animals. Most of the uses were found to be new when compared with published literature on ethnoveterinary.

Enumeration

1. Bone fracture

Thick paste prepared from the root of

Dolu (*Rheum emodi* Wall.) and the bark of Kafal (*Myrica esculenta* Buch.-Ham.) is applied on the affected part of the animal and bandaged.

Root of Dolu, Harjojan [*Coelogyne stricta* (D. Don) Schltr.], bark of Chamarhman (*Carpinus viminea* Wall.), green pine needles (*Pinus roxburghii* Sarg.), Dub ghass [*Cynodon dactylon* (Linn.) Pers.] are mixed and crushed. This mixture is boiled, after cooling, it is applied at warm stage, on the affected parts. Small piece of fresh chicken and honey are also applied over it.

Paste prepared from the bark of Shimal (*Bombax ceiba* Linn.) is plastered around fractured bone and bandaged.

Paste prepared from the seeds of Mas (*Vigna mungo* Roxb.) and applied around the affected parts of the body and bandaged with the help of Akhrot (*Juglans regia* Linn.) bark.

Paste prepared from bark and leaves of Chamarhman is plastered around fractured bone and bandaged with the help of wooden splints made up of lightwood.

2. Broken horns

Thick paste prepared from the unripe fruits of Akhrot locally called 'Kenchiy' is applied on the broken horns.

Paste of Harjojan leaves is applied on the affected part.

Paste prepared from the leaves of Rambans (*Agave americana* Linn.) is also applied on the broken horns.

Root of Mudila (*Anemone vitifolia* Buch.-Ham. ex DC.) and leaves of Bajar-Bhang (*Chenopodium ambrosioides* Linn.) are crushed and mixed together. This mixture is made into paste and ap-

plied on the wounds and bandaged with the help of cotton cloth. After 10-15 days cracked horn gets jointed. This treatment is also used for fixing loose horns.

Geru (red soil) is applied on broken horns.

3. Burn

Ink (writing ink) is applied on the affected part.

Fresh juice of lemon [*Citrus limon* (Linn.) Burm.f.] is applied immediately after burn on the affected areas.

Paste prepared from the leaves Munchayari is applied along with Mauni (butter) on the affected part of the animal.

4. Carbuncle/Pimple

Paste prepared from Chalmora (*Oxalis corniculata* Linn.) is applied externally on the pimples.

5. Constipation

Adarak (*Zingiber officinale* Rosc.) paste is mixed with Kamet (Calcium carbonate) and given to animal along with Chanchh (churned curd), till cured.

Saunth powder (dried *Zingiber officinale* Rosc.) along with Kali mirch powder (*Piper nigrum* Linn.) is given to animal.

Half litre mustard oil (*Brassica campestris* Linn.) mixed with half litre of lukewarm water is given orally to the animal.

About 100 gm of common salt and 100 gm ash (of any wood) is dissolved in one litre of lukewarm water and given to the animal.

Fruits of Aru [*Prunus persica* (Linn.) Batsch.] along with the seeds of Til (*Sesamum indicum* Linn.) are given to the animal.

About half litre mustard oil or Rada (*Brassica* spp.) oil or Til oil is given orally once a day. The quantity of oil may be increased or decreased as per the age and weight of animals.

About one litre fresh lemon juice is given to the animal.

6. Skin Disease (Locally known as Damari)

Animals discharge reddish-yellow urine, and become weak, skin becomes reddish and dries up. Animals also stop milking.

Fresh or dried root powder of Kali haldi (*Canna* sp.) is crushed and given to animal, till cured.

Oil obtained from Aru seeds is applied externally on the body of animal and massaged for 1 or 2 weeks.

Paste of black Bhatt (*Glycine max* Linn.) is given orally and also applied externally on the skin of the animal.

Paste of black Chana (*Cicer arietinum* Linn.) is also given orally to the animal.

Paste of black Bhatt (*Glycine max* Linn.) with red chili (*Capsicum annuum* Linn.) is given orally to the animal twice a day, till cured.

7. Diarrhoea (Locally known as Chheruwa Lagana or Chirani)

Wheat (*Triticum aestivum* Linn.) flour with sugar is given to the animal during diarrhoea.

A Roti (bread) prepared from Geda or Gahat (*Dolichos uniflorus* Lam.) flour is given to the animal twice a day.

Seeds of black Bhatt (*Glycine max* Linn.), Indrain (*Trichosanthes bracteata* (Lam.) Voigt (*T. palmata* Roxb.), red chili and Kali mirch, crushed and mixed

together is then made into paste. The paste (about 20-50 gm) is given to the animal twice a day.

Paste of black Bhatt (*Glycine max* Linn.) with red chili is given to the animal twice a day, till cured.

Crushed stem of Giloy or Gurja (*Tinospora cordifolia* (Willd.) Miers ex Hook. f. & Thoms.) is given to the animal twice a day, till cured.

About 250 ml cow's lukewarm ghee is given to the animal.

About 100 gm ground Adarak mixed with 20 gm powder of Kali mirch is given to the animal with lukewarm water.

Roti (bread) is fed when hen or cocks suffer from diarrhoea.

8. Dog bite

To treat dog bite, green and dry stem of Baigain (*Solanum melongena* Linn.) is burnt and burning twig applied carefully to dog bite site to check hydrophobia.

Warm mustard oil is applied on the affected part.

Powder of roasted fruits of red chili is applied on the wounds.

9. Eczema or Scabies (Locally known as Lut)

The symptoms include blisters on skin, thick and reddish skin, falling of hair and itching.

Paste prepared from Aru leaves is rubbed on the body of animals. Care is exercised after applying the Aru leaves because young leaves are poisonous.

Crushed leaves of Tambaku (*Nicotiana tabacum* Linn.) are rubbed on affected areas of the animal.

Paste of powder of red chili mixed with Til seeds is applied on the affected part of the skin.

Animal is washed with ash or Chuna (Calcium carbonate) mixed lukewarm water daily, till cured.

A mixture of wheat (about 100 gm), leaves of Kela (*Musa paradisiaca* Linn.) and small pieces of the skin of Hiran (deer), Bhed (sheep), Kakad (*Muntingia muntjak*) are roasted on the iron pan until it becomes black and made into fine powder. This black powder mixed with mustard oil is applied on the affected parts of the animal.

10. Inflammation (Locally known as Fatiya)

Sudden swelling or inflammation develops at the hips of the animal.

A fine tipped red-hot iron is touched on the swollen part of the animal's body.

11. Fever (Locally known as Maan Rog)

Body temperature increases, which can be judged by touching the animal's ear.

A little amount of Gur (jaggery) is given to animal along with lukewarm water.

In the case of hen and cocks, salty water is fed to the animal. Root powder of Kali haldi is also given along with water to treat the fever.

12. Food Poisoning

About 250 gm Adarak with lemon juice is given to the animal.

Crushed Adarak along with lukewarm water is given to the animal twice a day.

Four to five cloves of Lahsun (*Allium sativum* Linn.) are crushed and given to the animal along with 1 litre lukewarm water, till cured.

Paste prepared from the seeds of Dhatura (*Datura innoxia* Mill. and *D. stramonium* Linn.) is rubbed externally over the animal body.

nium Linn.) is rubbed externally over the animal body.

Small piece of Adarak is crushed and mixed with one litre churned curd and is given to the animal twice a day.

250 ml mustard oil mixed with half litre lukewarm water is given orally to the animal.

Fresh lemon juice is given orally to the animal.

Decoction prepared from Almora (*Rumex hastatus* Don) leaves is given to the animal with lukewarm water, till cured.

Small pieces of onion (*Allium cepa* Linn.) along with lukewarm water are given to the animal.

13. For Strength

Wheat flour mixed with sugar or Gur is given twice a day.

Thick paste prepared from seeds of Soyabean (*Glycine* spp.) is given to animals.

Chana seeds made into paste and mixed with milk are fed to the animal.

Crushed stems of Giloy mixed with wheat grains are given to the animal.

Crushed root of Ganjaru [*Stephania glabra* (Roxb.) Miers.] is given to the animal.

About half to one litre Sira (local liquor) is given to the animal during the cold weather for strength.

Root of Ganjaru, stem of Giloy and seeds of black Bhatt pounded together are fed to the animal twice a day. However, such preparation is given to bullock after adding some sugar.

14. Swelling (Locally known as Galgotu, Bhikana or Minaki)

Swelling develops on the throat of

animal, which causes obstruction in swallowing the grass or feeds. Animal faces problem in breathing.

Khad ghash (*Saccharum* spp.) leaves are rubbed over the swollen areas.

A red-hot iron is touched quickly for a moment only on the swollen portion. This treatment is locally called 'Dam Dena'. This process is related with Agnikarma of Ayurveda.

A live toad is rubbed on the swollen area.

Red chili made into paste is either mixed with Khad ghash or rough cloth and then rubbed on the swollen area of the animal, till bleeding.

A small cut is made on the swollen portion by using sterilized knife, then turmeric (*Curcuma domestica* Valet.) powder or common salt is applied on the wound.

15. Haematuria (Blood in urine)

A mixture of wheat flour, Jau (*Hordeum vulgare* Linn.) flour and sugar is given twice a day.

Ripe fruit of Kaddu (*Cucurbita maxima* Duch.) is fed for a month.

16. Hoof diseases (Locally known as *Khuriya*)

Continuous secretion of pus from the hoof (cleft of feet) is seen. It is a contagious disease.

Red mud is applied on the cleft of foot.

Kala Jeera (*Carum carvi* Linn.), saunth (dried ginger), Indrain, Maleti (*Glycyrrhiza glabra* Linn.), Kali mirch made into powder and mixed with churned curd is given to animals.

A mixture prepared from red chili, common salt, Kali mirch, dried root of

Bhoji (*Acorus calamus* Linn.) and small amount of lukewarm water and made into a thick paste is applied on the affected hooves.

Root of Bhoji made into a paste is applied on the affected hooves.

Paste prepared from the leaves of Bajar-Bhang is applied on hooves to cure *Khuriya*.

Paste of Timur (*Zanthoxylum* spp.) leaves is applied on affected hooves.

17. Internal Wounds

A mixture of Dub ghash, turmeric (250 gm) and fitkari (Alum) ground together, mixed with lukewarm milk is given orally once a day.

Half tola (about 0.5 gm) of Silajeet dissolved with milk or water is given to animal to cure internal wounds.

Fresh rhizome of turmeric ground and mixed with Gur and honey is given orally to animal along with lukewarm milk.

About one or half litre 'Sira' is given to the animal.

A pinch of Singrab powder (Cinnabar: mercuric sulfide) with lukewarm water is given to animal orally, twice a day, till cured.

Fruits and leaves of Harjojan made into paste are applied externally on the affected parts of the animals.

Fresh rhizome of turmeric and root of Jaharu haldi [*Cautleya spicata* (Sm.) Dandey] are crushed, extract of the juice mixed with small amount of Gur and is given orally once a day.

18. Kidiya

Only goats are affected with this disease. The body temperature is increased; thereafter frequent watery stool is passed.

According to villagers, the causal organism is a snail. During the browsing time, snails are also browsed along with the grass and the symptoms developed.

Juice of fresh leaves of Tambaku mixed with water is given to the animal.

19. Lactation problems

Jhangora (*Echinochloa furmentacea* Link.) flour is given daily in diet.

Seeds of black Bhatt or Soyabean made into powder, mixed with rice husk or hay are given to the milching animals three times a day.

A mixture of wheat flour, sugar, and Gur is fed to the animal.

Timila (*Ficus roxburghii* Wall. ex Miq.) leaves are fed to the animal in the morning.

Fermented wheat flour mixed with sugar is also fed to the animal twice a day.

Paste of black Bhatt or flour of Jau is fed to the animal.

A mixture of 250 gm each of Jbaab/Ajwain [*Carum copticum* (Linn.) Benth.], sugar and Gur is fed to the animal once a day for 10-15 days.

One dozen or more crushed fruits of Kela mixed with one kg wheat flour and one kg sugar are given to milching animals.

Leaves of Bheekhal (*Grewia* spp.), Banj (*Quercus* spp.) or Dhudila (*Excoecaria acerifolia* F. Didrichsen) are fed to the animal once in the morning.

Crushed roots of Jhiranda (*Asparagus racemosus* Willd.) are fed to animal. Sometimes crushed roots along with sugar are also given to the animal for best result.

20. Mastitis (Locally known as *Thanela*)

Inflammation occurs on the mammary glands, milk capillaries get blocked. Animal does not allow touching their mammary glands.

Red soil made into paste is applied on the nipple of the animal.

Root paste of Silphora (*Bergenia ciliata* Linn.) is applied on the affected nipple.

Mammary gland washed with fitkari water, and then fomentation is done by lukewarm salty water. After that Til oil is applied on the glands.

Chalmora leaves made into paste and mixed with Kali Mirch is applied gently twice a day, till cured.

Either Kamet powder or ghee is applied on the mammary glands.

21. Mouth Blisters (Locally known as *Mauni* or *Muh Paka*)

Blisters appear externally on the mouth, nasal parts or lips.

Rhizome of turmeric and root of Bhoji are ground into paste. Prepared paste is dissolved in salty water and desired amount of ash is added in it before applying it on the mouth of the infected animals.

22. Neck sore/Yolk sore (Locally known as *Kan lagan*)

Cracks, blisters, boils, itching, swelling, reddish appearance develop on neck; cracked skin sloughs off.

Mustard oil is applied on the neck sore.

Brown coloured oak's gum (locally known as 'Bajkoti') is applied on the affected part of the animal.

Pig (*Sus scrofa*) saliva is applied on the neck sore.

Red soil or clay soil is applied on neck sore or yolk sore.

A small amount of Heeng (*Ferula asafoetida* Linn.) mixed with mustard oil is applied on neck or yolk sore.

Turmeric powder is applied on the affected part of the neck.

Ointment prepared from the root powder of Kilmora (*Berberis* spp.) and Dalchini (*Cinnamomum tamala* Nees) mixed with butter is pasted on the affected part of the bullock.

Liquefied Pig fat is applied on cracks/neck sore.

23. Paralysis (Locally known as *Ragad*)

Heeng powder mixed with Til oil is massaged on the affected parts of the body.

Shimal's bark made into paste, mixed with Sira is plastered around the affected part of the animal and bandaged.

24. Tonsil (Locally known as *Anthaila*)

Root paste of the Kutaki (*Picrorhiza kurrooa* Royle ex Benth.) mixed with lukewarm water is given to the animal (goat).

25. Redness in eyes (Conjunctivitis/Pink eye)

Pithayi (fine powder prepared from turmeric after adding some Suhaga (Borax) is sprinkled once on the affected eye of the animals.

Mehal (*Pyrus pashia* Buch.-Ham. ex D. Don) fruits are chewed by any person and the fruit juice mixed with saliva is spit out forcibly on the affected eye.

A teaspoon full juice of Mehal fruit mixed with two ratti Soga/Suhaga (Borax) are dropped into eyes once a day.

26. Removal of Parasites

Ash of Pine, oak or Buransh wood (*Rhododendron arboreum* Sm.), mixed with kerosene oil is rubbed on the hair of the animal.

Root paste of Bhoji is rubbed on the body.

Bhoji root made into powder mixed with ash (of any wood) is rubbed on the body.

Fine powder of Lal supari (*Areca* sp.) along with milk or boiled rice is given to the dog to prevent external parasites.

Root powder of Kali haldi (about 10 gm), powder of red chili, and root powder of Bhoji are dissolved in salty lukewarm water and is given orally to the animal.

Fine powder (250 gm each) of Kali mirch, red chili and dried leaves of Tambaku (500 gm) mixed with one to two litre of salty churned curd is given orally to the animal twice a day.

Root paste of Jahari haldi is fed to the animal for internal parasites.

27. Retention of Placenta

If placenta is retained after the birth of young one, animal stops feeding and shows abnormal behavior due to pain.

One to two kg boiled rice (*Oryza sativa* Linn.), locally known as *Bhat*, is fed to the animal.

28. Snake Bite

Kali mirch roasted in ghee is given orally to the animal.

Root paste of Kali haldi is applied on the wounds of the animal.

Fine dry powder of Bhoji roots is also spread on the wounds.

A red-hot iron is touched quickly for a moment on the wounds.

Juice of Garurh Buti (a kind of aquatic herb) is given to the animal immediately.

29. Sprain/Muscular pull

Paste of Harjojan leaves is applied on the affected part.

Til oil is used for massage on the affected part of the animal.

30. Stomachache

Powder of Kali haldi mixed with lukewarm water is given to the animal.

Ground ginger mixed with lemon juice is given to the animal during stomachache.

10-20 gm of Sulpa (a resinous product of *Cannabis sativa* Linn.) mixed with 10 ml water is given to the animal.

Half litre mustard oil is given to the animal to cure stomachache.

Sulpa smoke is passed through nostril, in case of mule or horse.

31. Sterility

Roasted lemon is fed to the animal along with Kala Namak (black salt) for a month.

Rameshwar ghash (*Saccharum* sp.) is fed to the animal.

A leaf of Pat-kunwar (*Aloe barbadensis* Wall.) is tied externally on the navel portion of the animal.

32. Sunstroke

Brahmi [*Centella asiatica* (Linn.) Urban.] roots are boiled and fed to the animals twice a day.

Vegetative twig of Kilmora is tied on the body during heat strokes.

A mixture of Til seeds and red chili is put on the fire and smoked during heat stroke.

Small piece of root of Kela, roots of Sarset, roots of Kou (*Dioscorea pentaphylla* Linn.) are mixed and stuffed with sugar. This mixture is finally mixed with wheat flour and is fed to the animal.

33. Tympany/Flatulence

Root of Kali haldi is crushed and given to the animal.

Powder of black Bhatt mixed with wheat flour is fed to the animal.

Dry fruit of Aru and seeds of Til are put on the fire and the animal is exposed to the smoke.

Juice extracted from roots of Indrain is given to the animal.

One tola (about 10 gm) Heeng mixed with half litre mustard oil is given orally with lukewarm water.

The stomach of animal is punctured with the help of fine tipped iron needle, which is locally called 'Tokarkonala' or 'Suja'.

Four teaspoonful mustard oil is given to the animal.

Corm and pseudostem of Kela is fed to the animal.

Roots of Jhiranda made into paste is given to the animal.

About one litre churned curd is given to the animal.

Half kg Gur or half kg sugar mixed with wheat flour is fed to the animal.

Kala jeera along with one litre of lukewarm water is given to the animal.

34. Wounds

Root paste of Indrain is applied locally on the wound.

An ointment, prepared from the Kamet, Koyala (charcoal) in mustard oil is applied on the wound.

Root paste of Kali haldi or leaf paste of Aru is also applied on the affected parts of the animal.

Paste prepared from the roots of Mudila is applied on the wound.

Powder of Kunaja (*Artemisia roxburghiana* Wall. ex Bess.) leaves are applied on the wound.

Paste prepared from the bark and leaves of Chamarhau is applied on the wound.

Aqueous extract of fresh rhizome of turmeric is applied on the wound.

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