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Ethnoveterinary Uses of Medicinal Plants in District Kulgam, Jammu & Kashmir: Cultural Insights

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***Abstract*— The practice of ethnoveterinary is very significant in maintaining the health of livestock among rural populations in the Himalaya. This paper reports the customary practice of using medicinal plants in the District Kulgam, Jammu and Kashmir, where the local farmers and herders use the available plants in the area to treat the common diseases in cattle, sheep and goats. Field surveys and interviews showed that there was a wide range of plants used in the treatment of digestive disorders, respiratory problems, parasitism, wounds and general weakness. Some of the species to note are *Rumex nepalensis, Artemisia absinthium, Berberis lycium, Plantago major, and Chenopodium album* which have a variety of therapeutic attributes that include deworming, wound healing, andothers. These customs underscore the importance of the culture and the usefulness of the indigenous remedies, aswell as the necessity to protect wild plants in the area. The results are the groundwork of applying traditionalknowledge in modern veterinary practice, which can guarantee the sustainability of livestock health and survival, andthe preservation of intangible cultural heritage in the Himalayan agro-pastoral systems.**

Keywords. Ethnoveterinary medicine; Herbal medicine; Kulgam district; Kashmir Himalaya; Animal husbandry; Traditional medicine; Indigenous medicine.

1. INTRODUCTION

Kulgam district, whose base is at Kulgam town, is 68 km away Srinagar and 17 km away Anantnag. The district is located in between 33-degree 15' North latitude and 74-degree 35' East longitude. It is enclosed to the east and north by the Anantnag and Shopian districts, to the south and southwest by the mighty PirPanjal range, which forms an outstanding topographical obstruction.

District Kulgam maintains a large livestock population of more than one million. These include cattle, 112,782, sheep, 155,540 and goats, 22,910. The buffaloes are also smaller, and there are only 1, 285 buffaloes, and horses and ponies make 1,920. Besides these ruminants, poultry farming is also very important as there are an estimated 726,000 birds. In total, the district has an impressive total of 1,020,437 livestock which indicates the core contribution of animal husbandry to the local economy.

There is a network of 66 units that provide veterinary services throughout the district. These consist of 2 first aid centers, 1 tehsil unit, 2 veterinary dispensaries, 3 veterinary subunits and 2 frozen semen centers. It also has 25 Integrated Cattle Development (ICD) centres, one mobile dispensary, 24 trial centres, and six trial centres that are specifically dedicated to Gujjar and Bakerwal pastoral communities. In spite of the fact that the number of veterinary surgeon centers is not provided, the whole network depicts a well-organized system of animal healthcare. These facilities are supplemented by 67 private poultry farms which play a major role in the poultry industry of the district.

Such a mix of high animal base and a relatively developed veterinary infrastructure also demonstrate the significance of the traditional ethnoveterinary practices. Plant based remedies are still prevalent in remote and underserved regions and are important in keeping livestock healthy, so the documentation of such remedies is necessary both as a part of cultural preservation and scientific discovery.

1.1 Ethnoveterinary Uses of Medicinal Plants in District Kulgam Liliaceae

Asparagus filicinus (Halyun) is a perennial herb; its seeds are prepared in sugary milk as a decoction to ease delivery in ewes and cows.

Allium cepa (Gande), the onion bulb, is mixed with paddy chaff to stimulate the estrus cycle.

Ranunculaceae

Aconitum laeve (Muneri) has rhizome extract mixed with fodder to treat worm infections.
Actaea spicata (Rech dad) uses its rhizome, fresh or dried, for worm infection and asthma.
Lamiaceae
Ajuga parviflora (Ratibooty) employs aerial parts in a paste with oil for external inflammation and wounds.
Mentha sylvestris (Pudina, Pacdne) leaves are fed to animals to eliminate abdominal worms. Nepata laevigata (Longir) dried flowers are decocted for urinary tract infections. Plectranthus rugosus (Sloi) dried leaves are added to forage to relieve sore throat in goats.
Betulaceae Alnus nitida (Saroli) leaves boiled in oil are applied for foot and mouth disease.
Apiaceae Angelica glauca (Chora) rhizome paste mixed with fodder enhances milk production.
Foeniculum vulgare (Saunf, Baidean) aerial parts are decocted and given for indigestion.
Asteraceae Artemisia absinthium (Tethwan) whole plant crushed with wheat flour and sugar treats worm infection.
Achillea millefolium (Pahel ghass) whole plant is administered to treat abdominal worms. Inula royleana (Gugi Phool) flower extract with oil is applied for hoof inflammation and wounds.
Brassicaceae Brassica campestris (Sarson) seeds are crushed with mustard oil for skin infections.
Cannabaceae Cannabis sativa (Bhang) fresh leaf paste prevents lice infection.
Pinaceae Cedrus deodara (Deodar/Diar) oil from needles eliminates ticks and lice.
Pinus wallichiana (Kayud) needles mixed with grass are fed to treat abdominal worms.
Amaranthaceae Chenopodium album (Wan palak, Bathua) leaves boiled in mustard oil promote faster wound healing.
Zingiberaceae Curcuma longa (Haldi, Lidar) rhizome powder mixed with oil is applied on wounds and tied with cloth.
Geraniaceae Geranium wallichianum (Rattan jog) rhizome decoction with maize flour and ghee treats hoof inflammation and warts.
Papilionaceae Glycine max (Gabbe Muth) powdered seeds with wheat bran are fed to lactating animals.
Malvaceae Malva sylvestris (Aarm Sotzhal) shoot extract with wheat bran is used for respiratory disorders in goats.
Malva neglecta (Sotchal) grinded leaves with salt are fed to newborn calves for strength.
Salicaceae Populus nigra (Phras) bark decoction is used against parasitic worms. Salix alba (Veer) leaves and bark decoction treats intestinal worms.

1.2 Study Area

District Kulgam is geographically located within 33degee 15' North latitude with 74degree 35' East longitude. It borders the east and north with the Anantnag and Shopian districts and the south and southwest with the PirPanjal range which serves as a huge topographical barrier and serves to offer natural protection. The district Kulgam town is the headquarters, and the area is already road connected to the adjacent districts in all aspects, and it gives access to urban as well as rural settlements.
As per the census of the year 2011, the population of Kulgam district stands at 424,000 which is 3.38 percent of the total population of the Union Territory of Jammu and Kashmir. The population density of the district is very large 1,051 persons per square kilometre, which is in comparison to the state level, which is 124 persons per square kilometre. This demographic presentation represents the high-density mode of settlement and shows the socio-economic significance of the district in the Kashmir Valley.
The ecology and cultural importance of the district are highlighted by the fact that it is a unique geographical area with a high population density and a close location to the PirPanjal. These qualities render Kulgam a significant location to record ethnoveterinary and use of medicinal plants in the care of livestock.

1.3 Survey and Data Collection

In 2024, ethnoveterinary knowledge and practices were documented in the field survey of District Kulgam. Semi structured interview questionnaires and personal discussions were used to interview a total of 95 respondents. The participants were different communities such as tribal pastoralists, the local hakims (traditional practitioners), barbers and traditional healers. These informants were chosen based on years long affiliation with livestock rearing and indigenous healthcare practices.
The survey method was used to cover settled agricultural households and nomadic groups over a broad range of ethnoveterinary knowledge. Cross checking of information to improve reliability has been done by repeatedly visiting and triangulation between respondents. This heterogeneity of informants underscores the cultural nature of ethnoveterinary practice at both ends of the social hierarchy at Kulgam.

2. Results and Discussion

Ethnoveterinary uses of medicinal plants in District Kulgam.
The current survey identified 25 plant species that were reported to be used as livestock healthcare in District Kulgam and which belong to 15 plant families. Most of the species are perennial herbs, which is indicative of the dominance of

herbaceous plants in the ethnoveterinary repertoire. Other trees, including *Alnus nitida, Cedrus deodara, Pinus wallichiana, Populus nigra, and Salix alba* will also play an important role especially when used in the treatment of parasitic and skin related diseases.

Family representation: Lamiaceae and Asteraceae became the most represented, with a number of species each (Ajuga *parviflora, Mentha sylvestris, Plectranthus rugosus, Nepata laevigata; Achillea millefolium, Achillea absinthium, Inula royleana*). This hegemony reveals the pharmacological diversity of these families in ethnoveterinary practices.

2.1 Ailment categories:

Most commonly reported were digestive and parasitic infections, with *Artemisia absinthium, Achillea millefolium, Mentha sylvestris, Pinus wallichiana, Populus nigra, and Salix alba* having been used to treat abdominal worms and intestinal parasites.

Plants were used in treating reproductive health (*Asparagus filicinus*- easy delivery), and lactation (*Allium cepa*- estrus stimulation), and *Angelica glauca*- milk production*, Glycine max,* and *Silene vulgaris*- lactation enhancement.

Another significant category was skin and wound care, and the common ones involved *Ajugaparvi flora, Alnus nitida, Brassica campestris, Cannabis sativa, Cedrus deodara, Chenopodium album,* and *Curcuma longa* as effective in inflammation, infections, ticks, lice, and wound healing.

Malva sylvestris, Plectranthus rugosus and Nepata laevigata were used to cure respiratory and urinary diseases.

Malva neglecta helped to keep a person in good general health and strength and was milked to newborn calves to make them lively.

Parts and forms utilized: The most common parts of plants used were the herbs; rhizomes, leaves, aerial parts and seeds. *Aconitum lave, Angelica glauc*a and Rhizomes of Aconitum were especially prized, and leaves of *Cannabis sativa, Chenopodium album* and *Salix alba* were used often in decoctions and pastes.

Cultural value: The use of local plants emphasizes the local nature of ethnoveterinary knowledge among the people of rural Kulgam. Remedies can be simple, like decoctions, pastes, powders, mixed with household products like oil, flour, or milk, indicating accessibility and preservation of cultural traditions.

Comparative observations: Comparable ethnoveterinary practices have been documented in other Himalayan areas, but the local vernacular knowledge of Kulgam reveals certain specifications to the local ecology and livestock requirements. The popularity of worm related medicines demonstrates how widespread parasitic diseases were in pastoral systems and reproductive and lactation cures indicate the economic significance of the dairy production.

3. Interpretation of Results

The ethnoveterinary repertoire is dominated by Skin/Wounds/External infections (11 species, 37%), which indicates the value of treating wounds, parasites and infections in livestock.

The second largest (30) category is Digestive/Worms (9 species), indicating that the parasitic infestations are very common in pastoral systems.

Reproductive/Lactation (6 species, 20%) mentions the economic significance of dairy production and reproductive health in cattle, sheep and goats.

Respiratory/Urinary disorders (3 species, 10%) are not common but also important particularly in goats.

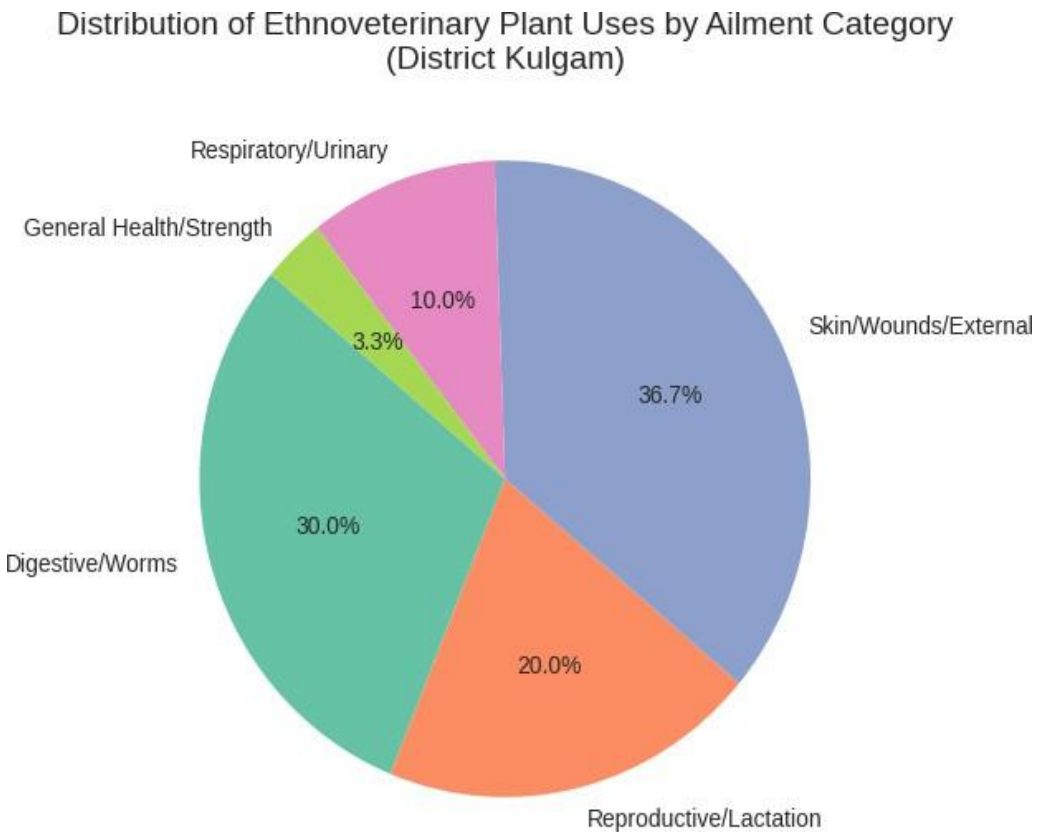
General Health/Strength (1 species, 3%) demonstrates specific solutions to vitality in newborn calves.

4. Conclusion

The current paper identifies the abundance of ethnoveterinary knowledge of rural populations living in District Kulgam, Jammu and Kashmir. A total of 25 plant species of various families were recorded with each having its own remedies that were applied to livestock health. Most of the plants were perennial herbs and the most used were rhizomes, leaves and aerial portions. Cures covered a vast variety of ailments, such as problems with the digestive system, parasitism, sexual health, lactation, skin disorders, wounds, respiratory diseases and overall wellbeing.

The results indicate that ethnoveterinary is still entrenched in the culture of Kulgam, particularly in the regions where such services are inaccessible in contemporary veterinary practice. The remedies are made based on simple available means, which are in most cases mixed with domestic products such as salt and water in an aspect that is practical as well as cultural. The prevalence of families like Lamiaceae and Asteraceae highlights their pharmacological significance in the traditional livestock management.

Recording this knowledge not only conserves the intangible cultural heritage but also gives a basis on how to incorporate the indigenous practices along the current scientific veterinary practices. This integration can boost the health of livestock sustainably, decrease reliance on synthetic pharmaceuticals, and biodiversity conservation in the Kashmir Himalaya. Further studies should be directed on the pharmacological validation of these remedies and ways of preserving the medicinal plant resources so that future generations can benefit from them in them



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