

Ethnoveterinary Practices Used for the Treatment of Different Ailments in District Swabi, Khyber Pakhtunkhwa, Pakistan

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Abstract: The inhabitants of District Swabi are mainly dependent on live stocks and agriculture. The district is self-dependent on the basis of veterinary and its products. However different ailments had affected these products. Ethno veterinary knowledge provides standard and cheaper treatments of livestock through traditional medicines. This study was performed to compile the ethno veterinary understanding of local inhabitants concerned with utilization of natural sources. The present survey was conducted to collect and compile the folk Ethno veterinary remedies practiced in Swabi district, Pakistan. Data was collected during 2015 to 2017 in various parts of District Swabi by intervening 150 inhabitants through semi-structured questionnaire. Direct matrix ranking for the recorded medicinal plant diversity and their healing potential were calculated. Specimens of reported medicinal plant were identified, collected, mounted and then deposited to Center of Plant Biodiversity, University of Peshawar herbarium. The results reflected that 67 planta were used in Swabi for curing various livestock ailments. Families recorded were 37 dicot and 5 monocot respectively. Most valuable plants species were also recorded for curing different diseases. Frequently plant parts used were either the leaves or the whole plants (18.57%). The Majority of the plants compiled to cure different diseases were growing in wild. According to DMR data *Albezzia lebbeck* and *Cassia fistula* ranked first and *Dalbergia sisso* was ranked at the end due to its multi-purpose uses in the recorded areas. Majority of recipes are directly recorded as fodder. This study concluded that the area is blessed with rich diversity of plants as well as traditional knowledge. People of old age were more aware regarding the traditional remedies in comparison to young generations. Furthermore, the costs of allopathic medicines and their inaccessibility to veterinary clinics, this indigenous treatment provides an alternative as well as low cost treatment to rural inhabitants. To increase the knowledge regarding sustainable utilization and conservation of Ethno veterinary is needed to arrange and design training courses under the supervision of veterinary experts.

Key words: Ethno Veterinary • Medicinal Plants • Folk Remedies • District Swabi

INTRODUCTION

Ethno veterinary medicine is knowledge of masses regarding skills, knowledge, practices, methods and beliefs regarding care of their live stocks [1]. Plants have been used traditionally for curing animals from time immemorial and their uses have remained much in demand throughout the world. In many developing countries, farmers and herders rely on ethno veterinary due to its availability and least expenses. The usage of plants as

medicine and food is sustain in far flung rural communities round the globe since time immemorial [2] the communication gap with modern civilization abide people from modernization and kept them closer to nature for their routine needs. The local inhabitants in particular elders (men and women) and local practitioners have hundreds of year old knowledge about utilization of plants for curing different common diseases [3]. EVM knowledge particularly folk remedies to establish priorities in rural communities [4] and establish a

linkage of plants and man to maintain sustainability [5]. These remedies are now in use abundantly in development of issues relate to live stocks health across the globe [6]. Pakistan and India previously called as Indo-Pak people practice these remedies from centuries for primary health care of their cattle's. Since time immemorial, animals have had a very vital role in human life for milk, food, transport, games, warfare and recreation. But still today, in remote areas, no organized health care system facilities for livestock are available, where the rural people are dependent upon their local livestock for most of their needs especially for agriculture production. The world 70% population is dependent upon livestock and its products. Agriculture and livestock production are major contributors of livelihood in rural areas of Pakistan. The literature available on Swabi is not covering the whole areas remedies and EVM knowledge i.e. [7] reported only twenty plants from the whole district. This research will be an addition to the EVM documentation and compilation which will provide baseline and way for further documentation of this area. Ethno veterinary information helps herbalists, ecologists, taxonomists, Pharmacologists, wild life managers and watershed in their efforts for developing the economic status of the locals in the remote area [7]. EVM are used in the area since long time. EVM exists in various form and levels that transferred from elders to their youngsters orally. The documentation is challenging tasks as one has to interview a person with excellent memory to remember ethno veterinary knowledge.

The rapid environmental, technological, cultural and socio-economic changes which are taking place in the area increase the challenges to the sustainability and survival of EVM. Therefore the conservation of this knowledge is very important. Being more environment friendly, safe and with least side effects it is possible to attract people to depend more on use of sustainable Ethno veterinary based treatment in District Swabi.

MATERIAL AND METHODS

Study Area: This research work was conducted in District Swabi Khyber Pakhtunkhwa, Pakistan. It lies at 72° 28', 11" East and 34° 7', 48" North of Khyber Pakhtunkhwa. It has alluvial fertile soil supporting rich Phyto-diversity on the edge of the longest River Indus in Pakistan. The area is having extreme climate [8]. The increase in temperature

can be observed from end of April to September. The maximum temperature is 41.5 °C during June. It is commonly observed that least diversity of plants results in soil erosion and temperature rise [9]. The local inhabitant's life is dependent on Dairy and its products. They keep buffalo, sheep, goat for milk curd and butter, Bull for carrying the cart and OX for Plough purposes and Dogs for prey. The only solution for treating various ailments are plants in least developing areas [10]. Due to least development the present area people also prefer plants for treating various livestock ailments.

Selection of Informants: Information and Data on different aspects of plants such as collection method, traditional uses, plucking time and marketing of species in the research area were collected from experts and local traders by interview and discussion. Likewise, women were directly included to collection, identification and application steps. A total of 90 informants were interviewed belongs to various ethnic groups like Gujjars, Yousafzai and Muhajir (afghan refugees). The respondents of three age groups (60+years old), (40 to 60 years) and (below 40 years) were interviewed and their interest as local collectors and traders were recorded through a semi-questionnaire.

Data Collection and Analysis: The collection for Ethno veterinary Plants locally used to treat various animals by practitioners of District Swabi was conducted during 2015 to 2017 in various parts of the area i.e Speen Khel, Manerai Bala, Manerai Payan, Chota Lahore, Charbagh, Gadoon and Topai. The research area was visited frequently during flowering season. Questionnaire were designed to document and identify the traditional knowledge regarding plant species of local masses about their part used, vernacular names, animals treated with, mode of administration, social factors, effectiveness and their believers. These were carefully plugged, cleaned and put in plastic bags, before wilting the specimens were put in dry newspapers. The vernacular names were compared with available data on The Plant list (<http://www.theplantlist.org>) and Flora of Pakistan [11, 12]. The collected specimen were deposited in Center of Plant biodiversity, University of Peshawar Herbarium. Microsoft excel sheet software was used for data analysis. The Direct matrix ranking (DMR) table, Habit, No of Monocot and Dicot were also developed by the same software program.

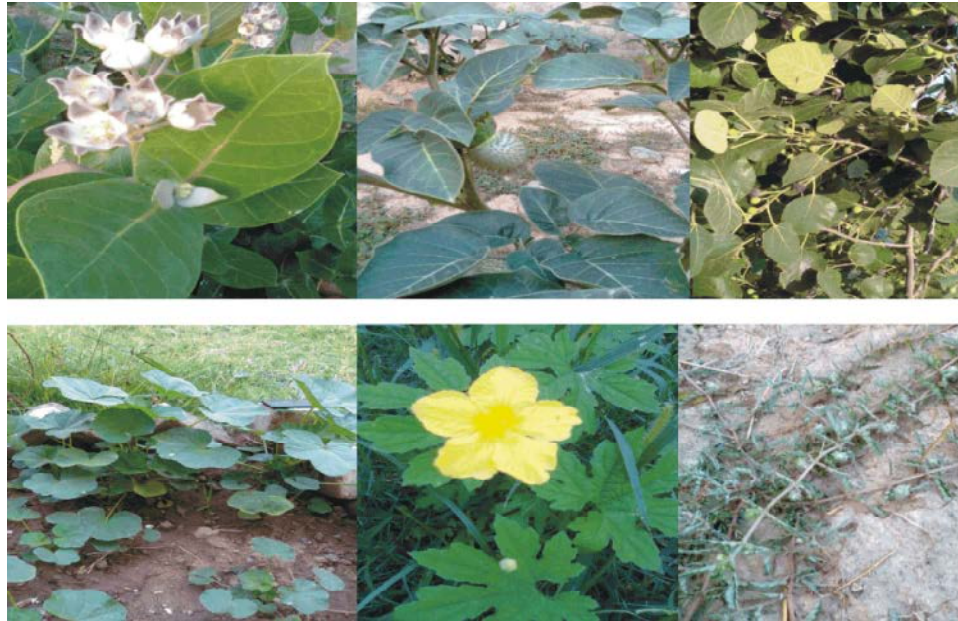


Fig. 4: (A) *Calotropis procera*, (B) *Datura alba*, (C) *Ficus carica*, (D) *Memordica chrantia*, (E) *Tribulus terrestris*,



Fig. 5: Pictorial view of Animals treated with medicinal plants

RESULTS AND DISCUSSION

Medicinal Plants Reported and Ailments Treated:

The Ethno veterinary results shows that 67 plant species belong to 42 families out of which 37 were Dicot and 5 are monocot families (Chart. 1). The habits of the plant were 60% Herbs, 27% Trees and 13% shrubs (Chart. 4) Both leaves and whole plant were maximum (18.75%) in used (Chart. 2). Diarrhea, gastrointestinal Tick infestation, Anthelmintic, Anorexia, eye diseases, indigestion and intestinal worm infestation, flatulence, pediculosis, abdominal pain and skin diseases were common in animals over the area. (Table 1) For Ethnoveterinary purpose species like *Allium ascalonicum*, *Arisaema jacquemontii*, *Aloe vera*, *Cyperus rotundus*, *Calotropis procera*, *Brassica campestris*, *Chenopodium murale*, *Euphorbia heliscopia* and *Ficus carica* are used.

Two individual plants are used for curing six and five disease respectively, three plants can cure four diseases, nine plants could be used to cure three disease and seventeen plants could cure two diseases while thirty nine plants can cure only one disease. (Chart. 3). For curing Anthelmintic six, Pain killer five, Diarrhea four, Cooling agent three and Astringent two plants were reported respectively (Table. 2).

Parts Used and Mode of Preparation: Plant parts “leaf” or whole plants were the most repeatedly used accounting for 18.75% of the reported medicinal plant species, followed by seeds (15.62%), fruit (12.5%), roots (9.37%), Rhizomes (6.25%), Flowers (4.68%) stem (3.12%) and Bulb, Grain, Juice, Latex, Stem bark, Wood and shoots (1.56%). (Chart. 5).

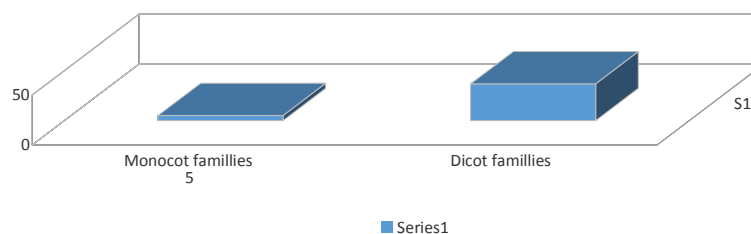


Chart 1: No. of Dicots and Monocots recorded

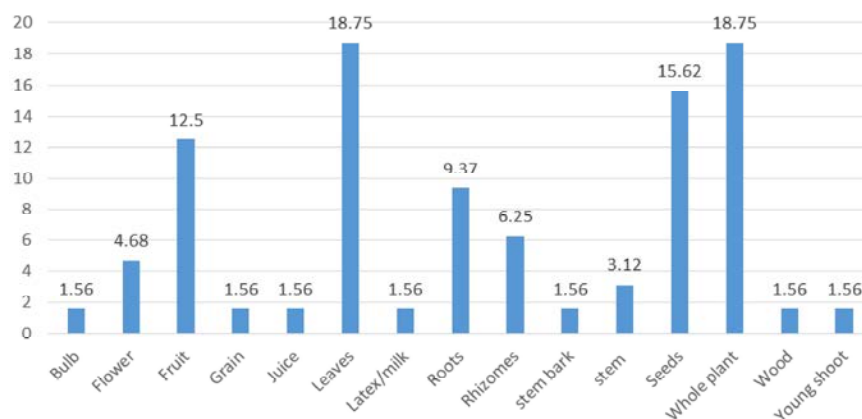


Chart 2: Percentage distribution of the plant parts used for EVM purposes.

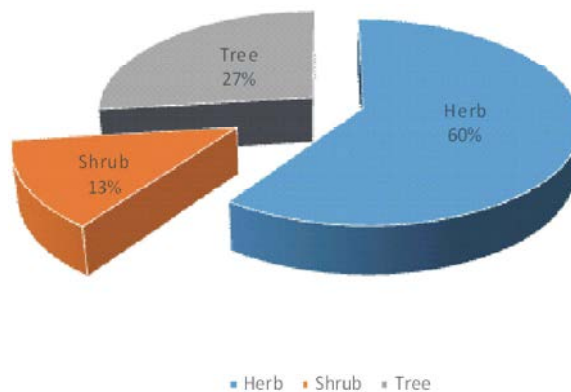


Chart 3: Percentage of Trees, Herbs and Shrubs

Table 1: Botanical names, local names, Part used and administration

S. No	Botanical name/ Families	Local Name	Voucher no	Parts Used	Recipe	Medicinal uses
Monocot						
1	Family Alliaceae					
1.	<i>Allium ascalonicum</i> L.	Ghar piaz	CPB-M-1	Bulb	Decoction, Boiled in water and given 1 liter per oz	Diarrhea, gastrointestinal helminthiasis and tick infestation
2	Family Amaryllidaceae					
2.	<i>Narcissus tazetta</i> L.	Gul-e- Nargus	CPB-M-2	Flower	Decoction of flower	Purgative and emetic
3	Family Araceae					
3.	<i>Arisaema jacquemontii</i> Blume	Zar botay	CPB-M-3	Roots	Decoction of Rhizomes and used as forage animals	Anthelmintic, spasmodic and rheumatism

Table 1: Continued

S. No	Botanical name/ Families	Local Name	Voucher no	Parts Used	Recipe	Medicinal uses
4.	<i>Colocasia esculenta</i> (L.)			Rhizomes		
4	Schott Family Cyperaceae	Khachalu	CPB-M-4	and leaves	Taken as a forage	Laxative demulcent and vermifuge
5.	<i>Cyperus rotundus</i> L.	Deela	CPB-M-5	Roots, Rhizome	As a fodder	Anthelmintic, diarrhea, Menstruation, used in hair loss and vomiting
5		Family Liliaceae				
6.	<i>Aloe vera</i> (L.) Burm. f.	Koor ghandal	CPB-M-6	Gel in leaves	Gel is taken with drinks or applied externally	Constipation, (Takoo) Disease pain in stomach, intestinal disorders to affected areas for skin infections
6		Family Poaceae				
7.	<i>Cynodon dactylon</i> (L.) Pers.	Kabal	CPB-M-7	Whole plant	Directly fed to animals	Astringent, diuretic, tonic leprosy, dysentery, skin diseases and refrigerant
8.	<i>Cymbopogon jwarancusa</i> (Jones)Schult.	Lemon grass	CPB-M-8	Whole plant	Directly fed by animals	Carminative, stimulant, cholera and fever
9.	<i>Saccharum spontaneum</i> L.	Shar ghashay	CPB-M-9	Rhizome	Decoction of Rhizome and the mix with water	Urination
10.	<i>Hordeum vulgare</i> L.	Verbashy	CPB-M-10	Grain		Astringent, refrigerant, digestion, diuretic and gastropathic
Dicots						
7		Family Acanthaceae				
11.	<i>Adhatoda vesica</i> Nees.	Bahkar	CPB-M-11	Fruit	The decoction of root and leaves is given orally. The ash mixed with oil of sarsoon	Intestinal worms, anthelmintic and insect (Mosquitoes and flies) repellent.
8		Family Amaranthaceae				
12.	<i>Amaranthus viridis</i> L.	Chalvery	CPB-M-12	Leaves	Given to as fodder	Emollient and anthelmintic
9		Family Anacardiaceae				
13.	<i>Pistacia chinensis</i> Bunge.	Shaniae	CPB-M-13	Fruit	Decoction	coughing
10		Family Apiaceae				
15.	<i>Anethum graveolens</i> L.	Soowa	CPB-M-14	Seeds	Decoction, Powdered and boiled in water and administered orally	Tonic
16.	<i>Bunium persicum</i> (Boiss.) Fedtsch.	Kala zeera	CPB-M-15	Seeds	Give as fresh	Blood purifier and fever
17.	<i>Daucus carota</i> L.	Gajar	CPB-M-16	Roots	Eaten as forage	Urination while sleeping
18.	<i>Foeniculum vulgare</i> Mill.	Kagah	CPB-M-17	Seeds	Administered as fresh	In digestion, gusto problems and Pneumonia
11		Family Apocynaceae				
19.	<i>Rhazya stricta</i> Decne.	Gandaire	CPB-M-18	Whole plants	Given directly	Fever in camels
12		Family Asclepiadiaceae				
20.	<i>Calotropis procera</i> (Aiton) W.T. Aiton	Spalmai	CPB-M-19	Milk	Milky latex of plant is applied on inflamed areas. The leaves and flowers are crushed and the paste is mixed with honey The root powder is mixed with butter and this ointment is applied.	Anorexia, eye diseases, indigestion and intestinal worm infestation, on snakebite to neutralize poison and to cure flatulence, to relieve inflammation.
13		Family Asteraceae				

Table 1: Continued

S. No	Botanical name/ Families	Local Name	Voucher no	Parts Used	Recipe	Medicinal uses
21.	<i>Taraxacum officinale</i> Webber.	Handd	CPB-M-20		The whole plant is fed to cattle and goats with leaves of Plahi (<i>Acacia modesta</i>)	To increase the milk production
14		Family Berberidaceae				
22.	<i>Berberis lycium</i> Royle	Ziar largay	CPB-M-21	Bark, roots	The bark are cleansed, dried boiled and extract is given for jaundice and for antibiotics given in fodder	Also use as antibiotics, Infection, Jaundice and microbial
15		Family Brassicaceae				
23.	<i>Brassica campestris</i> L.	Sharsham	CPB-M-22	Seeds	Mix the mustard oil with milk and butter (1 kg each) and administer.	Gastrointestinal helminthiasis, pediculosis and tick infestation.
16		Family Caesalpinaceae				
24.	<i>Cassia fistula</i> L.	Landais	CPB-M-23	Fruits	Mix in fodder and then given.	In human it is used in constipation, for gastro problems of children.
17		Family Cannabinaceae				
25.	<i>Cannabis sativa</i> L.	Bang	CPB-M-24	Flower and leaves	Decoction	Pediculosis, tick, uterine prolapse after birth
18		Family Chenopodiaceae				
26.	<i>Chenopodium murale</i> L.	Torsarmay	CPB-M-25	Whole plant	As forage	Diuretic, aphrodisiac, anthelmintic, abdominal pain, treatment for piles and sore eyes
27.	<i>Chenopodium botrys</i> L.	Skhabotay	CPB-M-26	Whole plant	As forage	The plant is antiasthmatic.
19		Family Convolvulaceae				
28.	<i>Convolvulus arvensis</i> L.	Prevatay	CPB-M-27	Roots	Act as forage	To ease the urethral emission, helminthiasis.
20		Family Cornaceae				
29.	<i>Cornus macrophylla</i> Wall	Hadang	CPB-M-28	Stem bark	Boiled and given orally	Pain killer
21		Family Crassulaceae				
30.	<i>Bryophyllum pinnatum</i> (Lam.) Oken	Patar chat	CPB-M-29	Leaves	Extract from boiled stem is given	Diarrhea
22		Family Cucurbitaceae				
31.	<i>Citrullus colocynthis</i> (L.) Schrad.	Propendo	CPB-M-30	Seeds	Seeds are boiled and extract is taken as per doze	Use for bleeding in urine
32.	<i>Momordica charantia</i> L.	Jagali kareela	CPB-M-31	Fruits	Fruits are boiled and given	Use for swelling in teat & udders
23		Family Euphorbiaceae				
33.	<i>Euphorbia helioscopia</i> L.	Mandaro	CPB-M-32	Whole plants	As forage	Use for constipation, myiasis and scabies
34.	<i>Ricinus communis</i> L.	Arand	CPB-M-33	Seeds	Crush two seeds into fine powder and administer orally	Gastrointestinal and myiasis
24		Family Lamiaceae				
35.	<i>Mentha longifolia</i> L.	Welany	CPB-M-34	Leaves	Taken as fodder	For gastro problems
	<i>Origanum vulgare</i> L.	Shamaky	CPB-M-35	Roots and leaves	Mix in fodder and given with mouth.	As a pain killer and cooling agent
25		Family Malvaceae				
36.	<i>Malva neglecta</i> Wall.	Panerak	CPB-M-36	Roots	As forage for animals.	Flu
26		Family Moraceae				

Table 1: Continued

S. No	Botanical name/ Families	Local Name	Voucher no	Parts Used	Recipe	Medicinal uses
37.	<i>Broussonetia papyrifera</i> (L.) L'Hér. ex Vent.	Gul toot	CPB-M-37	Leaves	Leaves are eaten as a fodder	For increasing of milk production
38.	<i>Ficus benghalensis</i> L.	Barr	CPB-M-38	Fruit, Leaves, latex/ Milk	Leaves are eaten directly	Premature ejaculation and increase the health
39.	<i>Ficus carica</i> L.	Injeer	CPB-M-39	Whole plant	Fruits are dried and eat	Piles, used in constipation, urinary bladder problems and to ease the placental emission
40.	<i>Morus alba</i> L.	Spin toot	CPB-M-40	Fruit, leaves and Wood,	Fresh leaves taken as fodder, fruits are dried and eaten.	Anthelmintic, astringent, diaphoretic, Laxative, purgative and vermifuge
27	Family Mimosaceae					
41.	<i>Acacia nilotica</i> L.	Kekar	CPB-M-41	Plant barks	The bark decoction is mixed disorder in with butter and fed to buffalo cattle and cow	As a pain killer for easy delivery and release of placenta and its spines also use for debates patients.
42.	<i>Acacia modesta</i> Wall.	Palosa	CPB-M-42	Whole	Eaten as a fodder	Dysentery, energetic and also used in weakness
43.	<i>Albizia lebbek</i> (L.) Benth.	Srekh	CPB-M-43	Young shoot and fruits	Fruit are directly eaten.	eye Diseases
28	Family Musaceae					
44.	<i>Musa paradisiaca</i> L.	Keela	CPB-M-44	Bark of stems	It is eaten directly or mixing in yogurt.	To ease the urethral emission
29	Family Myrtaceae					
45	<i>Psidium guajava</i> L.	Amrood	CPB-M-45	Leaves	As fodder	Anthelmintic
30	Family Papilionaceae					
46.	<i>Dalbergia sissoo</i> Roxb. ex DC.	Shawah	CPB-M-46	Seeds	As forage	cooling agent
47.	<i>Mallilotus phillipensis</i> (Lam.) Muell.	Kambela	CPB-M-47	Whole plants	As fodder	For treatment of urine blockage
48.	<i>Sesbania sesban</i> (L.) Merr.	Har,har/ Palaygul	CPB-M-48	Flowers	As a fodder	Pain killer
49.	<i>Trigonella foenum-graecum</i> L.	Malkhoza	CPB-M-49	Whole plants	The seeds are ground and given to animals in fodder and flour.	For increasing of milk production
50.	<i>Vicia sativa</i> L.	Geelo	CPB-M-50	Stems	As fodder	Fever
31	Family Pedaliaceae					
51.	<i>Sesemum indicum</i> L.	Konzali	CPB-M-51	Seeds and leaves	As a fodder	For hardening of bladder, urination while sleeping
32	Family Platanaceae					
52.	<i>Platanus orientalis</i> L.	Chenaar	CPB-M-52	Leaves	As fodder	Pain Killer
33	Family Plantaginaceae					
53.	<i>Plantago lanceolata</i> L.	Gha jabay	CPB-M-53	Leave and seeds	As fodder	Dysentery, laxative, mouth diseases, sore and wounds
34	Family Polygonaceae					
54.	<i>Rumex dentatus</i> L.	Shalkhay	CPB-M-54	Leaves	As fodder	itching
35	Family Portulacaceae					

Table 1: Continued

S. No	Botanical name/ Families	Local Name	Voucher no	Parts Used	Recipe	Medicinal uses
55.	<i>Portulaca oleracea</i> L.	Jala botay	CPB-M-55	Whole plant	As fodder	Tonic, blood purifier
36	Family Pinicaceae					
56.	<i>Punica granatum</i> L.	Anar	CPB-M-56	Fruit	Directly eaten	Diarrhea and constipation
37	Family Rosaceae					
57.	<i>Prunus persica</i> (L.) Batsch	Shaftalo	CPB-M-57	Leaves	As fodder	Worms treatments in wounds
38	Family Rutaceae					
58.	<i>Citrus medica</i> L.	Narang	CPB-M-58	Juice	Extract is fed to animals	For wound healing
39	Family Solanaceae					
59.	<i>Capsicum annuum</i> L.	Soor Marcha k	CPB-M-59	Fruit	Mix red chili, mineral salt and mustard oil and administer	Swelling in under
60.	<i>Datura alba</i> L.	Datoora	CPB-M-60	Whole plants	As forage	For heating of animals and diarrhea
61.	<i>Withania somnifera</i> (L.) Dunal	Kooti LAI	CPB-M-62	Seeds	Decoction, Aqueous boiled extract is taken	Diuretic, for swelling (bughma), as antipyretic, nausea animal mistatus and mlk production.
40	Family Tamaricaceae					
62.	<i>Tamarix aphylla</i> (L.) Lanza	Ghaz	CPB-M-62	Bark of stem	Decoction, Boiled in water and extract is taken	Wounds healing
41	Family Tiliaceae					
63.	<i>Grewia optiva</i> (Buch.) Ham. ex Roxb.	Pastawonay	CPB-M-63	Leaves	The leaves are ground along administered orally	For increasing of milk production, gastrointestinal, helminthiasis and to ease placental emission
42	Family Verbenaceae					
64.	<i>Phyla nodiflora</i> (L.) Greene	Aspa botay	CPB-M-64	Leaves	As forage	Fever
43	Family Zingiberaceae					
65.	<i>Curcuma longa</i> L.	Koorkaman	CPB-M-65	Rhizome	Fried rhizome in ghee is mixed with fodder, given orally or applied externally	For treatment of blood in milk/ bleeding, wounds and infections
44	Family Zygophyllaceae					
66.	<i>Tribulus terrestris</i> L.	Azghakay	CPB-M-66	Leaves	As a fodder	cooling agent, itching
67.	<i>Peganum harmala</i> L.	Spelanay	CPB-M-67	Seeds and leaves	As a fodder	Eye disorders and milk production

Table 2: The local names of diseases and multiple plants usage for different ailments

Botanical names	Local names	Number of medicinal plants used in treatments
Anthelmintic	Cheenji	6
Pain killer	Darh	5
Diarrhea	Heeza	4
Cooling agent	Yakhae	3
Astringent	Badhi	2

The surrounding area medicinal plants studies were performed in Swabi by Qasim *et al.* [13] on 24 selected medicinal plants [8] studied 66 plants used for purification of blood. In Charssada 104 Ethnoveterinary plants were studied by Ali *et al.* [14], in Buner 216 plants were studied by Sher, Khan and Hussain [15].

Habit, Availability and Marketability of Medicinal Plants:

The survey showed that 17 plant out of 67 are cultivated while the rest are available in wild. Trees, Shrubs and Herbs were recorded. The prominent species were

herbs 67%, Trees 27% and Shrubs 13% (Chart 2). Different techniques are used for the cultivation i.e. *Aloe vera*, *Momordica charantia* and *Capsicum annuum* are cultivated in pots while *Musa paradasiaca* is raised in domestic water outside the homes. *Cymbopogon jawarincosa*, *Bonium persicum*, *Daucus carrota*, *Foeniculum vulgare*, *Brassica compestris* and *Sesemum indicum* are cultivated in beds of kitchen gardens. *Ficus carica*, *Morus alba*, *Punica granatum* and *Prunus persica* are cultivated on the corner of terraces.

Table 3: Average direct matrix ranking (DMR) score of twenty key informants for nine medicinal plants species

Use diversity	<i>Aloe vera</i>	<i>Acacia nilotica</i>	<i>Acacia modesta</i>	<i>Albizia lebbbeck</i>	<i>Cassia fistula</i>	<i>Dalbergia sissoo</i>	<i>Platanus orientalis</i>	<i>Punica granatum</i>	<i>Tamarix aphylla</i>	Total	Rank
Agriculture	1	2	2	2	2	3	3	2	2	19	5
Construction	1	3	3	2	3	4	5	3	2	26	4
Fodder	1	3	3	3	3	5	2	2	2	24	4
Fuel	1	4	4	4	3	4	4	3	3	30	3
Medicinal	5	4	4	3	3	1	2	5	2	29	1
Total	9	16	16	14	14	17	13	15	11		
Rank	5	4	4	3	3	5	4	4	4		

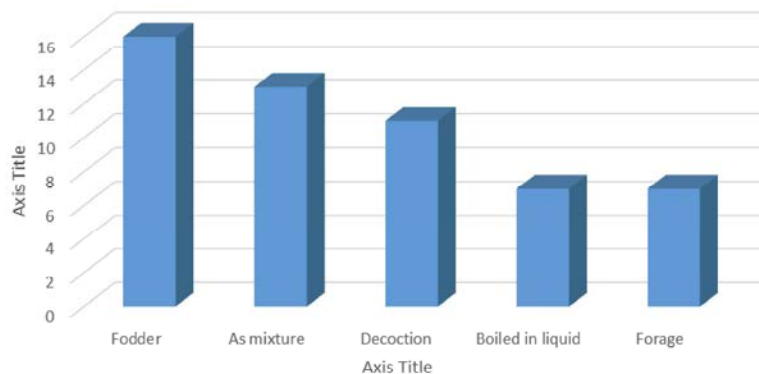


Chart 4: The No. of plants usage as remedies preparation

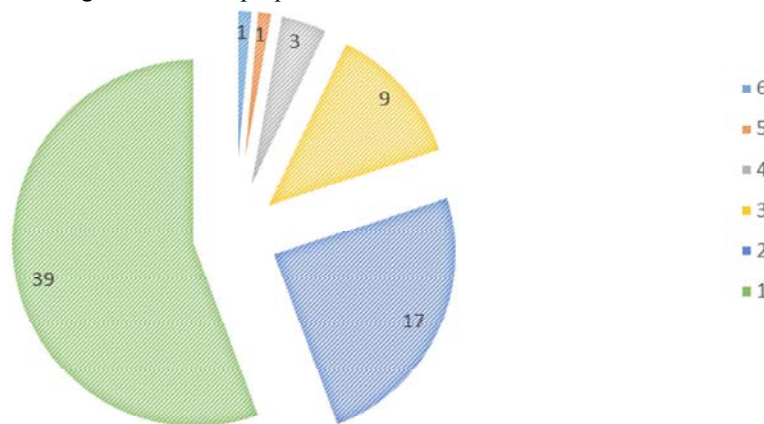


Chart 5: The number of plants used for curing diseases

Forty plants are available in wilds and can be accessed easily in the area of research. Most of the plants are also available in the market for economic purposes and sold for revenue generation by the local inhabitants. *Arisaema jacquemontii* is available in the market and imported from surrounding districts. The rich revenue producing plants available in the nearby markets are *Curcuma longa*, *Withania somnifera*, *Citrus medica*, *Prunus persica*, *Portulaca oleracea*, *Sesemum indicum*, *Trigonella foenum-graecum*, *Musa paradasica*, *Capsicum annum*, *Bonium persicum* and *Acacia modesta*.

Estimation of Medicinal Plants Healing Potential and Use Diversity: The direct matrix ranking (DMR) values show that *Albezzia lebbbeck* and *Cassia fistula* are ranked on top followed by *Platanus orientalis*, *Punica granatum*, *Tamarix aphylla*, *Accacia nilotica* and *Acacia modesta* while *Dalbergia sisso* and *Aloe vera* were least recorded Multi-purpose plants (Table 3). The above findings showed that these multipurpose medicinal plant species are currently in extensive use such as Agriculture, Construction, Fodder, Fuel and Medicinal purposes.

Majority of plants were recommended as fodder are 16, as mixture are 14, Decoction are 12, Boiled in liquid are 8 and as forage are 8 species (Chart. 4). Ethnoveterinary medicine varies not only from region to region as well as within communities [16]. It is believed that men got great experience due to professional specialization and work division that's why they know more about large animals than women. Hunters may have a wealth of information on hunting dogs. The rich agricultural land maintains good number of livestock and people dependency on livestock base livelihood [17]. Being more involved to farming and agriculture the district is rich in medicinal plants especially related to Ethnoveterinary. Despite of the fact that pharmaceutical industry has highly developed and advanced these traditional indigenous medicines of plant origin is still used in rural areas for treating human and livestock diseases. Furthermore, this indigenous treatment has provided an alternative as well as low cost treatment to rural inhabitants [18]. Local inhabitants can enhance their economic status by sustainable utilization and marketing of floral wealth of the area. Micro park and home gardens are suggested for low scale plantation [19].

CONCLUSION

The present study concluded that research area having rich treasures of flora used for Ethno veterinary practices. The traditional knowledge is restricted to farmers, Shepherd's, Diary form owners and elder community. The young generation are unaware of traditional remedies and treasures due to modern trends in medication, urbanization, expanding of agriculture demands. However District swabi is known as hub for the hierarchy of rich knowledge of Ethno veterinary because in summer season the shepherds from outskirts regions install tents on the Coast of Indus River due to moderate weather, ample fodder and easy access to water for drinking. This research will provide absolute help and availability of ethno veterinary practices which are going towards extinction.

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