

ETHNO VETERINARY PLANTS PRACTICES AT MAIDAN VALLEY, LOWER
DIR, WESTERN HIMALAYA, PAKISTAN

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Abstract

The present study was carried out in order to document the indigenous ethno veterinary knowledge (EVK) practiced by inhabitants of Maidan valley. The localities were named as Manyal, Kumber and Kotkay. All the information were collected regarding Botanical names, local names, part used, methods of preparation, dosage and uses. Thirty species (30) species of twenty four (24) families 29 genera of herbs, shrubs and trees were listed. Apiaceae, Brassicaceae, Euphorbiaceae, Lamiaceae, Papilionaceae and Poaceae with two (2) species Acanthaceae, Asclepiadiaceae, Asteraceae, Berberidaceae, Cucurbitaceae, Moraceae, Meliaceae, Mimosaceae, Myrtaceae, Oleaceae, Papaveraceae, Paeoniaceae, Pinaceae, Piperaceae, Sapindaceae, Solanaceae, Violaceae and Zygophyllaceae with one(1) species each. Forty seven (47) diseases are cured by these thirty (30) species i.e. Abdominal pain, anesthetic, anti-heat, body temperature, cough, flu, fever, heat cycle, mucus problem, worms and wounds. It has been noted that cough is cured by five (5) species, constipation and digestion by three (3) species, flu by two (2) species, acne, antispasmodic, anti-pain, anesthetic, anti- heat, body pain, bacterial diseases, fever, purgative, gastric trouble, heat cycle, healing wounds, injury, intestinal activeness, indigestion, intestinal worms, infection, increase milk, intestinal pain, muscle nasal problem, power, pneumonia, stomach problem, stomach irritation, tick problem, throat problem, viral diseases, worms and wounds by one (1) species each. *Calotropis procera* is used for indigestion, intestinal worms and infections and *Acacia modesta* is used for mucus membrane irritation, stomach irritation and digestion. The present study documented missing literature regarding ethno veterinary knowledge which was not previously mentioned.

Key Words: Ethno veterinary, Medicinal Plants, Maidan Valley

Introduction

Lower Dir has been divided into three subdivisions Jandool, Timergara and Maidan lies within $34^{\circ} 37'$ to $35^{\circ} 07'$ N latitudes and $71^{\circ} 31'$ to $72^{\circ} 14'$ E longitude. To its East lies Upper Dir toward north lies upper Dir toward west lies tehsil Balambat toward it west lies Jandool. The District is dominated by Mountains ranges and hills which are part of ranges of southern Hindu Kush. The people of Maidan mostly dependent on agriculture and due to hilly area majority of the people support their own self by cultivation of crops, having poultry at their home and also Dairy. A Major population have 1-2 buffalo and cows and 4-5 goat and sheep etc. Ethno veterinary medicines is based on common beliefs, traditional methods, methods and skills used by the people for curing diseases and maintaining health of animals. It has been estimated that medicinal plants have been widely used for several centuries as primary source of prevention and control of livestock diseases (Hoareau and Dasilva.1999). Now a days due to industrial development this traditional knowledge has been vanished in some part of developed world (Tabuti *et al.*, 2003). On the other hand, ethno veterinary medicines is still playing an important role in sustainable livestock farming in different areas of globe (Tabuti *et al.*, 2003) and a Pakistani farmers draw on over four millennia of knowledge and experience with ethno veterinary plants however very little has been done scientifically to improve upon these traditional practices. There has been some efforts to records ethno veterinary plants and validate medicinal plants in Pakistan (Akhtar *et al.*, 2000; Iqbal *et al.*, 2002, 2004; Muhammad *et al.*, 2005; Jabbar *et al.*, 2006a; Dilshad *et al.*, 2008; Farooq *et al.*, 2008).

Maidan valley is also an isolated mountainous area where peoples depends on local remedies for ailment diseases of animals for decades but because of modern trends readymade medicines from market are available. The indigenous knowledge which has transferred from generation to generation is going to extent. So this is the first ever attempt in ethno veterinary line to provide baseline for future researchers, secondly this will encourage them to secure and promote this knowledge through this way.

Materials and Methods

Ethno veterinary studies were carried out at three localities from November to May. The localities were named as Manyal, Kumber and Kotkay. All the information were collected regarding Botanical names, local names, part used, methods of preparation, dosage and uses. The plants species were collected during (2012-2013) and collected specimen were

identified and numbered in Herbarium of University of Peshawar Botanical Garden, Azakhel. The data was made more authentic by comparing it with literature available (Stewart, 1967-1982). Also with literature of (Nasir and Ali, 1970-1989; (Ali and Qaiser, 1993-2013). All the plants used in preparation of various remedies were collected, pressed, dried and mounted on herbarium sheets and the voucher specimens were deposited in Herbarium of Center of Plant Biodiversity, University of Peshawar. The data was checked with the literature available regarding ethno veterinary medicinal uses of plants (Akhtar and ahmad 1992; porth 1994; peacock 1996; hammond et al., 1997; shinwari and khan, 1999; Akhtar et al 2000; Muhammad et al, 2005).

Results

Thirty (30) species were collected belonging to twenty four families (24) and 29 genera. Out of them eighteen (18) are herbs six (6) are shrubs and six (6) are trees. Thirty species (30) species of twenty four (24) families and 29 genera of herbs, shrubs and trees were listed. (Fig1) (Fig.2) Apiaceae, Brassicaceae, Euphorbiaceae, Lamiaceae, Papilionaceae and Poaceae with two (2) species Acanthaceae, Asclepiadiaceae, Asteraceae, Berberidaceae, Cucurbitaceae, Moraceae, Meliaceae, Mimosaceae, Myrtaceae, Oleaceae, Papaveraceae, Paeoniaceae, Pinaceae, Piperaceae, Sapindaceae, Solanaceae, Violaceae and Zygophyllaceae with one (1) species each. It has been noted in results that Forty seven (47) diseases are cured by these thirty (30) species. i.e. abdominal pain, acne, anti-spasmodic, abdominal pain, anesthetic, anti-heat, anti-diarrheal, broken organs, body pain relation, body temperature, bacterial diseases, body temperature, constipation, carminative, cough, digestion, estrous, expectorant, purgative, flu, fever, gastric trouble, heat cycle, healing wounds, intestinal activeness, injury, indigestion, intestinal worm, infection, increase milk, intestinal pain, muscle relaxation, mucus problem, nasal problem, power, pneumonia, purgative, repellent, respiratory diseases, respiratory track problem, stomach pain, stomach problem, stomach irritation, tick infection, throat problem, viral diseases, worms and wounds. *Calatropis procera* is use for cure of indigestion, intestinal worms and infection. *Brassica campestris* is use for fodder and increase milking. *Citrullus colocynthis* is use for constipation, stomach pain, abdominal pain and tick infection. (Fig. 1) It has been noticed that cough is cured by *Melia azedirach*, *Eucalyptus lenceolata*, *Glycyrrhiza glabra*, *Viola sp* and *Tribulus terrestris*. Constipation is cured by *Citrullus colocynthis*, *Mallotus philipensis* and *Riccinus communis*. Digestion by *Trachyspermum ammi* and *Acasia modesta*. Flu by *Viola spp.* and *Eucalyptus lenceolata*. (Table 1) shows that the majority of people in mountainous area where less

facilities or ethno veterinary doctors are not available they consult with old folks and practitioners for curing the ailments of animals, because those are the only experts available to resolve the health problems of fauna. In Pakistan, there is acute shortage of veterinaries and animals health care professionals. The ethno veterinary practices can compensate this shortage to some extent. Therefore, there is a need to further scientifically evaluate the optimal and safe dosages of this preparation on modern pharmacological parameters. Cost effective ethno veterinary practices may serve as alternative to expensive allopathic treatments (Bilal et al., 2009)

Table 1. List of different Plants botanical names, Local names, Part used, Remedy preparation and dosage.

S.No.	Family	Botanical name	Local name	Part used	Remedy preparation	Dosage	Uses
01	Acanthaceae	<i>Adathoda vasica</i> Nees.	Bekarrh	Ash	It is burnt to make ashes and mix with Mustard oil	Applied on skin of animals twice daily	Insect and flies repellent
02	Apiaceae	<i>Trachyspermum ammi</i> (L.) Sprague	Ajwain	Fruit	<i>Trachyspermum ammi</i> , <i>Foeniculum sp</i> , <i>Cajanus cajan</i> , NaCl	60 grams in water and 30 grams in gurrh	Digestion
		<i>Foenicullum vulgare</i> Mill.	Kagelaney	Stem Fruit	<i>Foenicullum</i> , <i>Zingiber</i> , Turpentine oil	Horse buffalo 15 to 40 ml Sheep and goat 3 to 4 ml	Muscle relaxation and antispasmodic
3	Asclepiadaceae	<i>Calatropis procera</i> (willd.) R. Br.	Spalmi	Leaves and flower	Paste is obtained after grinding both leaves and flower	Mix with wheat flour	Indigestion Intestinal worms and infections
4	Asteracaceae	<i>Arthemisia absinthium</i> L.	Tarkha	Stem	<i>Mallotus phillippinensis</i> <i>Psoralea coylifolia</i> , <i>Adiantum capilliusveneris</i> ,	Both for cattle's and buffaloes 50 grams daily for 4 days.	Heat cycle Estrous
5	Berberidaceae	<i>Berberis lycium</i> Royle	Zeer largai	Rhizome	Rhizome are dried and also	Dried Rhizome	Broken

					we can use powder directly	is mix with desi ghee and powder is also use Bandage on broken organs	organs healing wounds
6	Brassicaceae	<i>Brassica campestris</i> L.	Sarsoon/ Shrhsham	Seed	Seeds remains called khal are obtained after extraction of oil	Mix with water and after softening given to animals	Fodder and increase Milking
		<i>Sisymbrium irio</i> L.	Khob-e-kla	Whole plant	Nowshadar <i>Sisymbrium irriu</i> Khshkhsh seeds Camphour make powder and mix with ghur twice a day	60-80 gram for big animals 30-45 gram for small animals	Respiratory diseases
7	Cucurbitaceae	<i>Citrulus colocynthis</i> Schard	Kalkonday	Extract whole plant	<i>Raphanus sativus</i> Extract is used mix with half heated water Cut fruit is also used	120 ml for cow, buffalo 30-40 ml for wolf sheep. Buffalo For ticks infection it is	Constipation, Stomach pain, Abdominal pain and Ticks infection

						applied topically	
8	Euphorbiaeae	<i>Mallotus philipensis</i> (Lam). Muell. Arg	Kambela	Whole plant	Sulphur Nela tootha Kala zera and <i>Mallotus</i> are mix with oil and used	They are use directly as a syrup	Constipation
		<i>Ricinus communis</i> L.	Aranda	Fruit	Grind it to extract oil	30 to 80 ml for wolf 80 -120 ml for large animals	Purgative and constipation
9	Lamiaceae	<i>Mentha longifolia</i> (L.) Huds.	Wenaley	Leaves	Leaves are dried and grinded to make powder.	Powder are either use with ghur syrup or powder are mix with water or mix with fodder	Gastric trouble and carminative
		<i>Mentha viridus</i> L.	Podina	Seed	Oil of podina make crystals and mix with camfour	Use outside body according to doctor advise	Acne
10	Moraceae	<i>Ficus palmata</i> L.	Enzar	Shoots oil	<i>Populus nigrum</i> oil,alsi oil, turpentine oil, <i>Aracheas</i> <i>hypogea</i> oil, <i>Mentha sp</i>	Big animals 100 ml Small animals 75	Abdominal pain, Nasal problems,

					leaves. Make a syrup after mixing	ml	Stomach problems and Intestinal pain
11	Meliaceae	<i>Melia azedarach</i> Him.	Bakain/toor a shandai	Fruit	Fruit are grinded and mix with milk	Powder mix with milk two times a day	Kill worms Fever and cough
12	Mimosaece	<i>Acasia modesta</i> Wall.	Palusa	Stem	Sugar, <i>Acacia</i> gum, egg white ,glycerin and plants oils	20-25 ml for cattle's and 40-50 ml for buffalo, cow etc.	Mucus membranes irritation, stomach irritation and digestion
13	Myrtaeace	<i>Eucalyptus lenceolata</i>	Lachi	Seed	<i>Eucalyptus</i> oil	30-35 ml mix with water for cattle and 35-40 ml for buffalo and cow.	Respiratory track problems, flu and Cough
14	Oleaecae	<i>Olea ferrugenia</i> Royle	Khoona	Fruit	Olive oil	1litre for buffalo and cow and ½ liter for cattle's	Constipation Food and anti-pain
15	Papaveraece	<i>papaver somniferum</i> linn.	Opium	Fruit	Morphine is extracted after	Horse	Anesthetic

					grinding	0.6 to 0.14 gm Sheep, goat 30 to 60 mg	and body Pain relaxation
16	Paeoniaece	<i>Paeonia emodii</i> Wall ex. Royle	Paevonia	Rhizome	Make powder of <i>Paevonia</i> and give it with flour	50 gram each	Power and injury
17	Papilionaeceae	<i>Cajanus cajan</i> (linn.) Mill	Genghar	Seeds	Seeds are grinded to make powder and mix with ghee	½ kg for buffalo cow and ¼ for cattle	Anti-heat and antidiarrheal
		<i>Glycyrrhiza glabra</i> linn.	Khwagawal ey		NH ₄ Cl Pottashium nitrase	50 gram for animals 10 to 50 grams for small animals	Expectorant Cough of bronchitis and pneumonia
18	Pinaeaceae	<i>Pinus ruxburgi</i> sargent	Nakhtar /Sanober	Stem Terpentine oil	Tarpine 15 to 90 ml <i>Brassica sp</i> oil 300 to 400 ml	15 to 30 ml for horse and 12 ml for small animals	Anti-zymotic
19	Piperaceae	<i>Piper nigrum</i> L.	Toor merh	Fruit	<i>Foenicullum</i> , <i>Trachyspermum</i> , Nacl, pepper sp, <i>zingiber</i>	100 grams in flour 110 grams in ghurh and 130 grams in chukar	Digestion

20	Poaceae	<i>Avena sativa</i> L.	Jawdar	Extract	<i>Medicago sativa</i> <i>Avena sativa</i> Extract is used	3-5 ml mix with water three times aday	For all viral and bacterial diseases
		<i>Oryza sativa</i> L.	Chawal	Fruit Chookar gandam	Agar agar mix with chukar gandam	2-3 kg chukar mix with agar agar.	Purgative Make the function of intestine active
21	Sapindaceae	<i>Dodonaea viscosa</i> (L.) Jacq.	Ghwraskai	Leaves	Green and fresh leaves	Bound below the bandage on effected area	Wounds
22	Solanaecae	<i>Solanum suriatense</i> Burm.	Maraghoney	Fruit	Fruit is grinded to extract juice from it	20-25 ml for cattle and 30-35 ml for cow, horse and buffalo.	Body temperature
23	Violaceae	<i>Viola biflora</i>	Gul benafsha	Flower	<i>Viola sp</i> Milti Alsi petals Nawshadar <i>Zizypus sp</i>	Cow, buffalo 40-60 ml Sheep, goat, wolf 20-40 ml mix with water	Throat problems Flu and Cough

					<i>Foeniculum vulgare</i> Grind it to extract juice	three times a day	
24	Zygophyllaceae	<i>Tribulus terrestris</i> L.	Malkunday	Fruit	Juice is extracted from fruit	Doctor advice	Cough

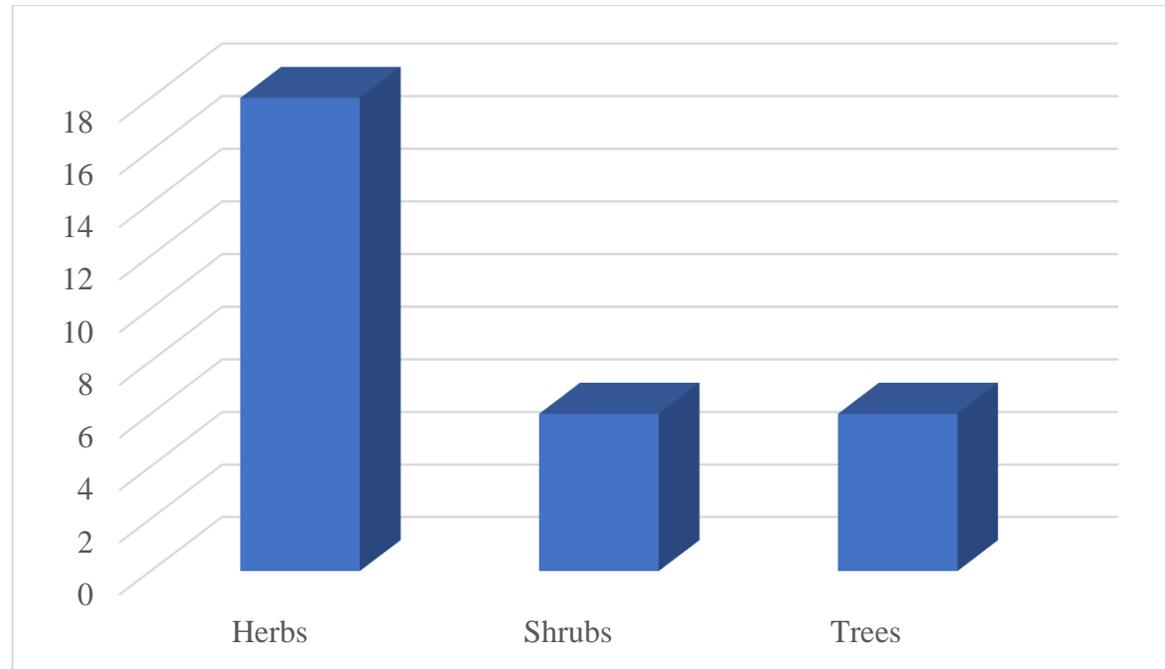


Fig.1 Habit of collected Plants

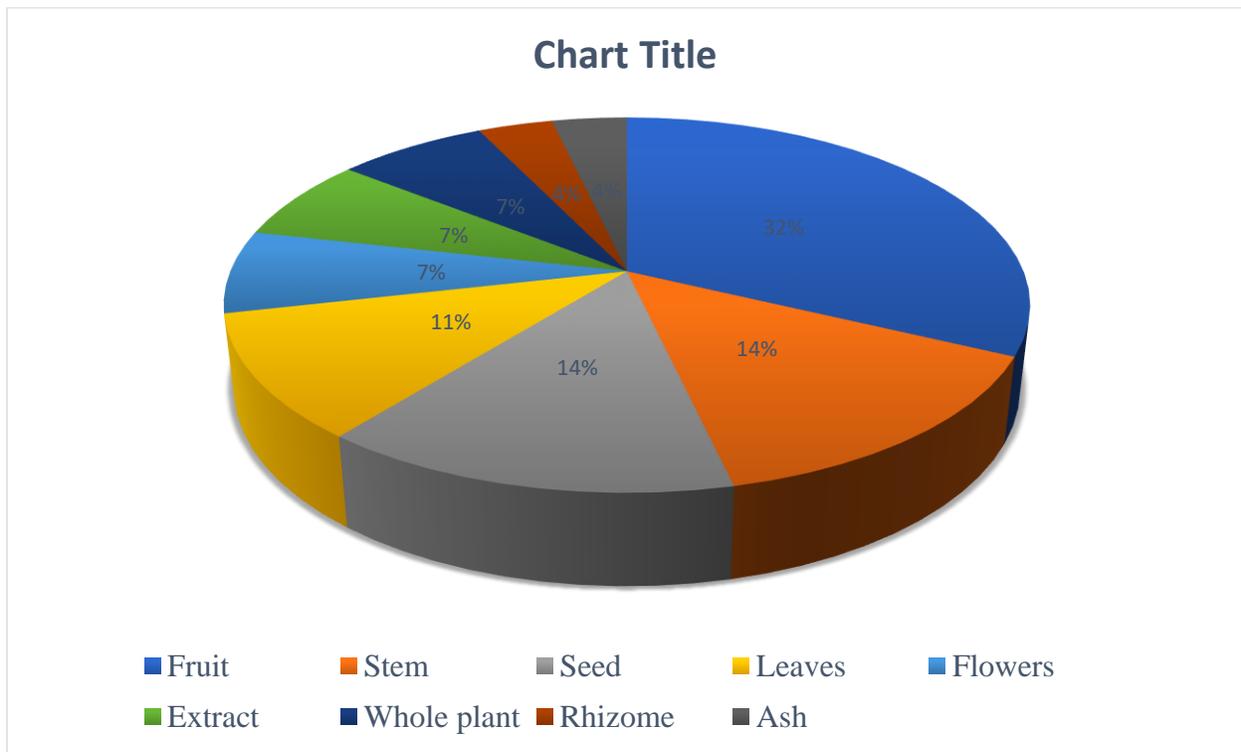


Fig. 2 Part used for curing different diseases

Discussion

There are two reasons regarding ethno veterinary in our area which are great hurdle in ethno veterinary field one is the economic status is not high ,Traditional veterinary medicine is very important in developing countries where conventional remedies for animals health care are inaccessible or unaffordable to poor rural farmers (McGaw et al., 2007) about 80% of people in the world today rely upon folk(traditional) medicine for treating both human and animals diseases (Iqbal et al., 2003). Non the less much effort is needed in research and integration of the ethno veterinary practices activities practices in developing countries (Mathias and McCorkle, 1997). Secondly from ethno veterinary indigenous knowledge only few families are getting benefit because they restrict that knowledge to their own self to utilize that knowledge to get financial benefit by selling out prepared remedies packed with them at their homes and they are afraid if we share this knowledge is transferred to other then all people will

have their own veterinary at their home and no one will come to buy their products. In many native and local stock raising communities if not all a considerable proportion of useful ethno-knowledge and traditional animals health care practices remain unknown to date, although their increased demand to be integrated into primary animals health care diversity system for wider use by rural and urban communities (Wanzala et al, 2005). Because traditional, native, medical practices have been in most cases either discontinued or greatly modified, there is much about them that will never be known (Lawrence, 1998).

It is the responsibility of government to encourage these people by either open center in such far flung area in which a ethno veterinary specialist tell them about the importance of local remedies and how they are prepared secondly if this is not possible then provide medicines at very low price at market and government take some practical steps so it will make our people self-supportive. Because dairy and poultry the basic needs of a house and human being for its meat value and other products eaten for a healthy health will be available to everybody at its door step. And the day will come that our country will export dairy and poultry products to other countries. And all these things are possible when our dairy and poultry have health environment, proper food and most important that they are disease free and in case of any ailments there is availability of health facility.

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