ETHNOMEDICINAL STUDY OF PLANTS OF MAIDAN VALLEY DISTRICT LOWER DIR, KHYBER PUKHTOONKHWA, PAKISTAN

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Abstract: The study was conducted in order to investigate the ethnobotanical información of plants used by people and relation ship of plants with people of Maidan Valley. The field survey was conducted in 2021 in order to document the ethno-medicinal importance of plants, folk recipes, mode of utilization and mode of administration of local inhabitants of Maidan valley. Data collection includes observations; transect walks and interviews from local populance regarding existing ethno-medicinal practices. The inhabitants of the area were interviewed during different months of 2021. The participatory and qualitative data were obtained through Questionnaires concerning the resources of plant and its utilization. Information of plants utilization, mode of administration, demand, quality and quantity were recorded. The current study documented a sum of 85 plants species belong to 72 genera and 41 families. The dominant family was Rosaceae with 7 species (8.23%) followed by Poaceae with 6 species (7.05%). Lamiaceae and Asteraceae with 5 spp. each (5.88%), Solanaceae, Myrtaceae, Fabaceae, Moraceae and Brassicaceae each have 4 species (4.70%). Apiaceae, Caryophylaceae, Amarylidaceae, Euphorbiaceae, Rutaceae, Polygonaceae, Salicaceae, Pinaceae and Cupressaceae each have 2 spp. (2.35%) and the remaining 21 families have 1 spp. (1.17%), in each family. 85 plants species, out of 85 plants species 43 herbs (50.58%), 29 trees (34.11%) and 13 shrubs (15.29%) figure 4.2. On the basis of disease treated Rosaceae show dominancy followed by Poaceae, Lamiaceae, Asteraceae, Solanaceae, Myrtaceae, Fabaceae, Moraceae, Brassicaceae, apiaceae, Caryophylaceae, Violaceae, Scrophulariaceae, Plantaginaceae, Fumariaceae, Spindaceae, Juglandaceae, Chenopodaceae, Oleaceae, Simaroubaceae, Cactaceae, Plantanaceae, Malvaceae, Meliaceae, Papilionaceae, used for multipurposes like, Diarrhea, Dysentry, Analgesic, Antispasmodic, Carminative, Febrifyge, Cancer, Astringent, Emollient, Antiasthmatic, Anthelmintic, Tonic, Diuretic, Toothache, Stimulant and Stomachach etc. The dominant treated disease is diarrhea (11.76%) followed by tonic (9.41%), diuretic (9.41%), dysentry (8.23%), stimulant (7.05%), abdominal pain (7.05%), stomachach (5.88%), refrigerant and blood purifier (5.88%), carminative (4.70%), antiasthmatic (4.70%), astringent (4.70%), emollient (4.70%), analgesic (3.52%), antispasmodic (3.52%), cancer (3.52%), antirheumatic (3.52%), anthelmintic (3.52%), febrifyge (2.35%), toothach (1.176%) (Table 4.8-4.26). Most proffered plant e.g _Xanthium strumarium_ L., _Coriandrum sativum_, The present study was carried out in District Lower Dir tehsil Lal Qilla Maidan. To eliminate the species composition in ethnobotanical study. The study revealed that flora of District Lower Dir Maidan comprise in 85 plants species belong to 42 families.

Indexterms: Ethno botany, medicinal plants Maidan valley, Dirrhea, Dysentry

I. INTRODUCTION

Plants are the source of supplying basic needs in the form of food, cloths, housing, and medicine have played vital role in human life for a long time. Different diseases are cured by single plant, and a large number of plants are used to eliminate single disease. Same plant bears various parts like stem, leaves root, bark, flower and fruits for treating different diseases. But people are unaware to use all those. From the ancient time medicinal plants were used for treating various ailments but with the gradual increase in population their significance is increased tremendously. Medicinal plants have been used all over the globe by human being as a source of cures for different diseases and also as a source of drug sine ancient time (Malik et al., 2011) and plants fulfills the income needs as well (Washington et al., 1997). The higher plants species reported throughout the world are about 0.259 million and out of this 53,000 plants species are used for medicinal uses. Medicinal plants having fewerside effects other than pharmaceuticals and are conveniently available, about 80% of the world population is dependent on medicinal plant by using it for their basic health care (Barkat et al., 2011). In the year 2002 the medicinal and aromatic worth was $62 billion throughout the world, if the condition will go on as it is today its worth will be reached to $5 trillion by 2050 (Shinwari et al., 2010). Eastern medicines in Pakistan were comprised of (3) three systems such as Chinese, Ayurvedic and Greco-Arabic. From these systems medicinal recipes were obtained from organic and inorganic sources. The old knowledge belongs to an earlier time. Pakistan is the home of medicinal plants and is used in daily life for different purposes (Afridi et al., 1986). A Botanist in 1895 for the first time used the term ethnobotany during delivering lecture in Philadelphia to describe his research work on "plants used by primitive and aboriginal people" (Harshberger, 1896). The study of uses of plants in cultures and their complex relationship with each other is called Ethnobotany. Focusing on ethnobotany, how plants are used or have been used, perceived, managed in human societies as well as plants used for medicines, food, divination, dyeing, cosmetics, textiles, for building currency, clothing, rituals and other tools of social life (Rahman et al., 2009).

The virtual and old field in its totality with new dimensions of research is called ethnobotany. When the field is investigated properly and systematically, resulting yield will have great value missing the ethnobotanist, plant-geographers, anthropologists, archaeologists, ethnobiologists, botanists and linguists and eventually to phytochemists and pharmacologists. Actually it looks like a channel between medicinal plant and botany, but is more than that. It supplies the 'idea' and main materials for botanical research and study, and starts. The virtual and old field in its totality with new dimensions of research is called ethnobotany. When the field is investigated properly and systematically, resulting yield will have great value missing the ethnobotanist, plant-geographers, anthropologists, archaeologists, ethnobiologists, botanists and linguists and eventually to phytochemists and pharmacologists. Actually it looks like a channel between medicinal plant and botany, but is more than that. It supplies the 'idea' and main materials for botanical research and study, and starts as step before ever botany in the sense. It then attracts us about the significance of medicinal plants. It moves further to know us about the application of knowledge about the medicinal plants through medicinal men among the primitive people by report (Jain et al., 1996). The interrelationship between plants, human over time and space is termed as ethnobotany. Plants play an important role in functioning of all societies and operation of all ecosystems consequently. (Smita et al., 2012).Since the creation of human life on earth, in ancient time men have utilized the plants. Plants were used for the first time in persistence of food shelter and medicine. Wild plants have been used constantly for the welfare of human for their important qualities (Ali, 2003). Therapeutic plants are silently used

for healthcare in the developing countries (Buitron et al., 1999). The inhabitant assured their dependency on medicinal plants, owing to the inaccessibility of medical health care services and great rate of manmade medicines. Traditional medicines are used against different diseases, and between 35,000 and 70,000 plant species are charity (Lewington, 1990). Traditional medicines are used by world inhabitants about 70 to 80 % (pei, 2001). About 1572 genera and 5521 species have been found in Pakistan, generally restricted to hilly regions (Ali, 2008 and Ali and Qaiser, 1986). About 84% of Pakistan population was dependent on traditional medicines for most of their medicinal uses or all Hocking (1958). In machyara national park Muzafarabad Azad Jammu and Kashmir (Bukhari et al., 1994) worked on ethnobotany and vegetation analysis and in different regions of national park, they reported (10) plant communities. National park machyara was further explored by Zandial (1994) and worked on 104 important species of plants including tree, shrubs, and herb species used ethnobotanically by native people.

II. MATERIALS AND METHODS

2.1 Study area

The Maidan valley is located in lower Dir and is divided into lower and upper Maidan. It lies between 710 31/ to 720 14/ longitudes and 37/to 350 07/ latitude is 340 and is 150 km far away from North Peshawar. The Maidan valley is surrounded in the north by Tehsil Barawal of District Dir Upper, surrounded by Tehsil Munda from Western boundary, towards the south is Tehsil Balambat, and at its eastern boundary is Tehsil Warai (Figure 1.1). The area covered by the valley is about 300 km and is surrounded by the series of Hinduraj Mountains. As the water is abundant, but in both sides of the mountain is river, therefore for irrigation the utilization of water is less. According to the phyto-geographic regions of Pakistan the valley comes in Sino- Japanese region (Ali and Qaisar 1986). This district is dominated topographically by southern Hindukush Range Mountains and hills. From the south towards the north mountain range increases, the difference in altitude is from 800m to 2000m. The inhabitants of the area are mainly agriculturist by profession.
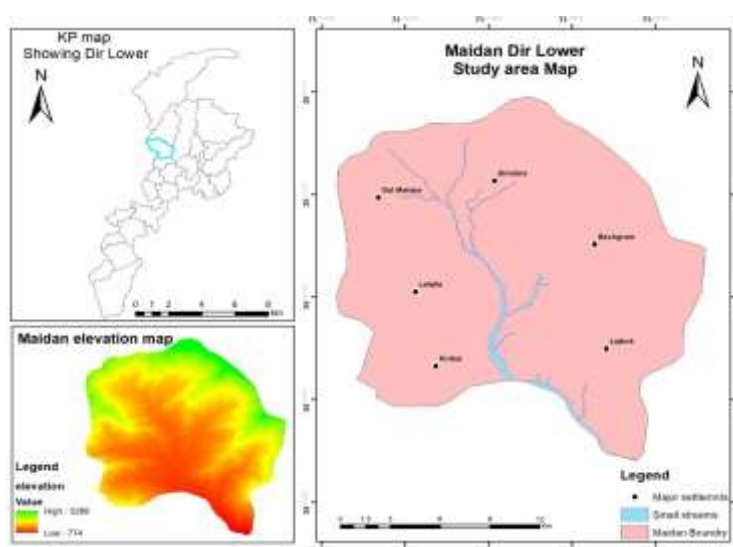

Figure 1. Map of the study area.

2.2 Field survey

The field survey was conducted in order to document the ethno-medicinal importance of plants, folk recipes, mode of utilization and mode of administration of local inhabitants of Maidan valley. Data collection includes observations; transect walks and interviews from local populance regarding existing ethno-medicinal practices. The inhabitants of the area were interviewed during different months of 2021. The participatory and qualitative data were obtained through Questionnaires concerning the resources of plant and its utilization. Information of plants utilization, mode of administration, demand, quality and quantity were recorded.

2.3 Information about the Informant and questionnaire survey

During face to face discussion and interviews the demographic survey of informants were assessed People were taking interest and took part, thus showed their keenness. Total 200 informants were interviewed including 164 males and 36 females. 17 informants ages were in between 60 to 75 years (Table 2.1). They have information about medicinal plants used traditionally, their methodologies, are respected honestly and local area practicizing plants for healing speeding and play multifarious as spiritual protection, healer and counselors. During regular field visits figure and facts about the medicinal plants were noted. Some health practitioners were sensitive during interviewing and tell us that they don"t share their knowledge to outsiders and took payment if someone has exposed the information from family.The major respondents were males about 65% as in tribal area of Pakistan. Females are interacted and restricted to talk without side community members and strangers. That"s why females are not allowed to go markets or cities and also official sites. That is the main reason because the female are less contributing in the current study. Old age people are aware more and having skills about ethno-medicinal plants. While highly educated people have less knowledge about ethnomedicinal plants. New generation don"t take interest and participate less in utilization of medicinal plants.

Table 2.1 Details of the informants, their number and percentage.

Variable	Category	Number	Percentage
Gender	Male	164	14.4
	Female	36	1.6
Age	60-75	17	8

III. RESULTS

The current study documented a sum of 85 plants species belong to 72 genera and 41 families. The dominant family was Rosaceae with 7 species (8.23%) followed by Poaceae with 6 species (7.05%). Lamiaceae and Asteraceae with 5 spp. each (5.88%), Solanaceae, Myrtaceae, Fabaceae, Moraceae and Brassicaceae each have 4 species (4.70%). Apiaceae, Caryophylaceae, Amarylidaceae, Euphorbiaceae, Rutaceae, Polygonaceae, Salicaceae, Pinaceae and Cupressaceae each have 2 spp. (2.35%) and the remaining 21 families have 1 spp. (1.17%), in each family. 85 plants species, out of 85 plants species 43 herbs (50.58%), 29 trees (34.11%) and 13 shrubs (15.29%) figure 4.2. On the basis of disease treated Rosaceae show dominancy followed by Poaceae, Lamiaceae, Asteraceae, Solanaceae, Myrtaceae, Fabaceae, Moraceae, Brassicaceae, apiaceae, Caryophylaceae, Violaceae, Scrophulariaceae, Plantaginaceae, Fumariaceae, Spindaceae, Juglandaceae, Chenopodaceae, Oleaceae, Simaroubaceae, Cactaceae, Plantanaceae,

Malvaceae, Meliaceae, Papilionaceae, used for multipurposes like, Diarrhea, Dysentry, Analgesic, Antispasmodic, Carminative, Febrifyge, Cancer, Astringent, Emollient, Antiasthmatic, Anthelmintic, Tonic, Diuretic, Toothache, Stimulant and Stomachach etc. The dominant treated disease is diarrhea (11.76%) followed by tonic (9.41%), diuretic (9.41%), dysentry (8.23%), stimulant (7.05%), abdominal pain (7.05%),stomachach (5.88%), refrigerant and blood purifier (5.88%), carminative (4.70%),antiasthmatic (4.70%), astringent (4.70%), emollient (4.70%), analgesic (3.52%),antispasmodic (3.52%), cancer (3.52%), antirheumatic (3.52%), anthelmintic(3.52%), febrifyge (2.35%), toothach (1.176%) (Table 4.8-4.26). Most proffered plant e.g *Xanthium strumarium* L.,*Coriandrum sativum*, In the study area total 85 ethnomedicinal plants species were recorded which are used for multiple purposes. Out of 85 plants species 48 species (56.47%) were used as medicinal, including *Thymus serphyllum* L., *Foeniculum vulgare* Mill*., Platanus orientalis* L., *Solanum nigrum* bernex., *Marrubium vulgare* L., *Rumex hestatus* D. Don., *Mentha arvensis* L.etc A total 5 species (5.8%) were used as fuel wood, including *Juglan regia* Linn., *Pinus wallichiana* A.B. Jackson etc (Table 3.1).

Table: 3.1 Ethnobotanical list of medicinal plants species with their local name, habits and uses.

Family name	Scientific Name	Local name	Habit	Uses
Plantanaceae.	*Platanus orientalis* L.	Chinar	T	Dirrhea
Solanaceae	*Solanum nigrum* bernex.	Karmachoo	H	Dirrhea
Plantaginaceae	*Plantago ovata* L	Ghwjabai	H	Dirrhea
Berberidacea	*Berberis lycium* Royle..	Kwary	H	Dirrhea
Papaveraceae	*Papaver somniferum* L..	Koknar	H	Dirrhea
Lamiaceae	*Marrubium vulgare* L	Silver popular	T	Dirrhea
Myretaceae	*Psidium guajava* L..	Amrood	T	Dirrhea
Rutaceae	*Citrus sinensis* (L.)	Malta	T	Dirrhea
Polygonaceae	*Rumex dentatus* L.	Shalkhay	H	Diarrhea
Myrtaceae	*Eucalyptus globulus* Deh.	Lachi	T	Dysentry.
Asteraceae	*Artemisia annua* Linn.	Tharkha	T	Dysentry.
Poaceae	*Avena sativa* L.	Javdar	H	Dysentry.
Simaroubaceae	*Melia azedarach* L.	Tora shandai	T	Dysentry.
Moraceae	*Broussonetia papyrifera* (L.) LHer. ex Vent.)	Gultoot	T	Dysentry.
Simaroubaceae	*Ailanthus altissima* (Mull.) swingle	Khara shandai	T	Dysentry.
Polygonaceae	*Rumex hestatus* D. Don.	Tarookay	H	Dysentry.
Asteraceae	*Artemisia annua* Linn.	Tarkha	H	Analgesic.
Asteraceae	*Artemisia santanilifolica* L..	Kharawa	C	Analgesic.
Lamiaceae	*Mentha longifolia* L.	Velany	H	Analgesic.
Juglandaceae	*Juglan regia* Linn..	Ghoz	T	Antispasmodic.
Lamiaceae	*Mentha arvensis* L.	Podina	H	Antispasmodic.
Lamiaceae	*Thymus serphyllum* L.	Spairkai	H	Antispasmodic.
Apiaceae	*Coriandrum sativum* L.	Dania	H	Carminative.
Apiaceae	*Foeniculum vulgare* L.	Kagalany	H	Carminative.
Lamiaceae	*Mentha longifolia* L.	Venaly	H	Carminative.
Lamiaceae	*Thymus serphyllum* L.	Spairkai	H	Carminative.
Lamiaceae	*Mentha arvensis* L.	podina	H	Febrifyge.
Lamiaceae	*Mentha longifolia* (L.) L.	Venaly	H	Febrifyge.

Moraceae	*Ficus carica* L	Inzar	T	cancer
Leguminosae	*Acacia arabica* Willd.	Kekar	T	cancer
Thelypteridaceae	*Christella normalis* (C. Chr.) Holttum	Kunth's maiden	T	cancer
Asteraceae	*Xanthium strumarium* L.	Geshy	H	Astringent.
Myrtaceae	*Eucalyptus globulus* Deh.	Lachi	T	Astringent.
Oleaceae	*Olea ferruginea* L.	Khona	T	Astringent.
Polygonaceae	*Rumex hastatus* D. Don.	Tarooky	H	Astringent.
Spindaceae	*Dodonea viscosa* L.	Ghwarasky	T	Emollient.
Moraceae	*Ficus carica* L.	inzar	T	Emollient.
Poaceae	*Cenchrus ciliaris* L.	Spalani	T	Emollient.
Rosaceae	*Prunus persica* (L.) Batsch	Shaltalo	T	Emollient.
Lamiaceae	*Ficus carica* L.	spirki	S	Antiasthmatic.
Apiaceae	*Coriandrum sativum* L.	Dhnia	H	Antiasthmatic.
Brassicaceae	*Nasturtium officinals* R. Br.	Tarmira	H	Antiasthmatic.
Rosaceae	*Prunus persica* (L.) Batsch	Shaltaloo	T	Antiasthmatic.
Lamiaceae	*Thymus serphyllum* L.	Spirki	H	Refrigerant and blood purifier.
Lamiaceae	*Mentha arvensis* L	Podina	H	Refrigerant and blood purifier.
Asteraceae	*Artemisia annua* Linn.	Tharkha	H	Refrigerant and blood purifier.
Moraceae	*Morus alba* L	Spenthooth	H	Refrigerant and blood purifier.
Rhamnaceae	*Zizyphus jujuba* gaetn.	Markhani	T	Refrigerant and blood purifier.
Asteraceae	*Artemisia anna* Linn.	Tarkha	H	Tonic
Asteraceae	*Xanthium strumarium* L.	Geshy	H	Tonic
Juglandaceae	*Juglan regia* Linn..	Ghoz	H	Tonic
Oleaceae	*Olea ferruginea* Royle.	Khona	H	Tonic
Rutaceae	*Zanthoxylum armatum* DC.	Dambara	H	Tonic
Poaceae	*Tritcum vulgare* L.	Ganam	H	Tonic
Moraceae	*Broussonetia papyrifera* (L.) LHer. ex Vent.).	Gultoot	H	Tonic
Papilionaceae	*Vicia faba* L	Marghai khpa	H	Tonic
canabinaceae	*Cannabis sativa* L.	Bhang	H	Diuretic
Poaceae	*Cynodon dactylon* L.	Kabal	H	Diuretic
Poaceae	*Tritcum vulgare* L.	Ghanum	H	Diuretic
Moraceae	*Ficus carica* L.	Inzar	T	Diuretic
Lamiaceae	*Ocimum basilicum* L.	Kashmaly	H	Diuretic
Solanaceae	*Solanum tubersum* L.	Aloo	H	Diuretic
Papilionaceae	*Vicia faba* F.	Marghaikhpa	T	Diuretic
Brassicaceae	*Brassica compestris* L.	Sharsham	H	Diuretic
Ranunculaceae	*Ranunculus sceleratus* L.	Ziar gulay	H	Toothach.
Oleaceae	*Olea ferruginea* L.	Khona	T	Antirheumatic.
Platanaceae	*Platanus orientalis* L.	Chinar	T	Antirheumatic.
Asteraceae	*Conyza aegyptiaca* (L.) Aiton	Maloch botay	S	Antirheumatic.
Cannabaceae	*Citrus sinensis* (L.) Osbeck	Malta	T	stimulant
Solanaceae	*Cannabis sativa* L.	Bhang	S	stimulant

Spindaceae	*Dodonaea viscosa* L.	Gwarasky	H	stimulant
Apiaceae	*Foeniculum vulgare* Mill.	Kagalany	H	stimulant
Lamiaceae	*Mentha arvensis* L.	Phodina	S	stimulant
Lamiaceae	*Mentha logifolia*	venaly	H	stimulant
Lamiaceae	*Ocimum basilicum* L.	Kashmalai	H	stimulant
Asteraceae	*Artemisia annua* Linn..	Tarkha	T	Stomachach
Apiaceae	*Coriandrum sativum* L.	Dhania y	H	Stomachach
Apiaceae	*Foeniculum vulgare* Mill..	Kagalany	H	Stomachach
Lamiaceae	*Ocimum basilicum* L..	Kashmaly	H	Stomachach
Lamiaceae	*Thymus serphyllum* L.	spirki	H	Stomachach

Keywords: H (Herbs), S (Shrubs), T (Tree).

The ethnobotanical data from Maidan Dir Lower reveals a variety of medicinal uses for plant species in the region. The most common uses are treatments for diarrhea, as tonics, and diuretics, with eight species (10.67%) used for each purpose. Seven species (9.33%) are employed as stimulants and for treating dysentery. Treatments for stomachaches and as refrigerants and blood purifiers each involve five species (6.67%). Carminatives, astringents, and antiasthmatics each utilize four species (5.33%). Analgesics, antirheumatics, antispasmodics, and treatments for cancer each involve three species (4.00%). Febrifuges are represented by two species (2.67%), while toothaches are the least common use, with only one species (1.33%) used for this purpose. Overall, the data underscores the rich ethnobotanical knowledge in Maidan Dir Lower, highlighting the diverse medicinal applications of local flora in traditional medicine.

Table. 3.2 Number of species and their percentages that are used for different treatments.

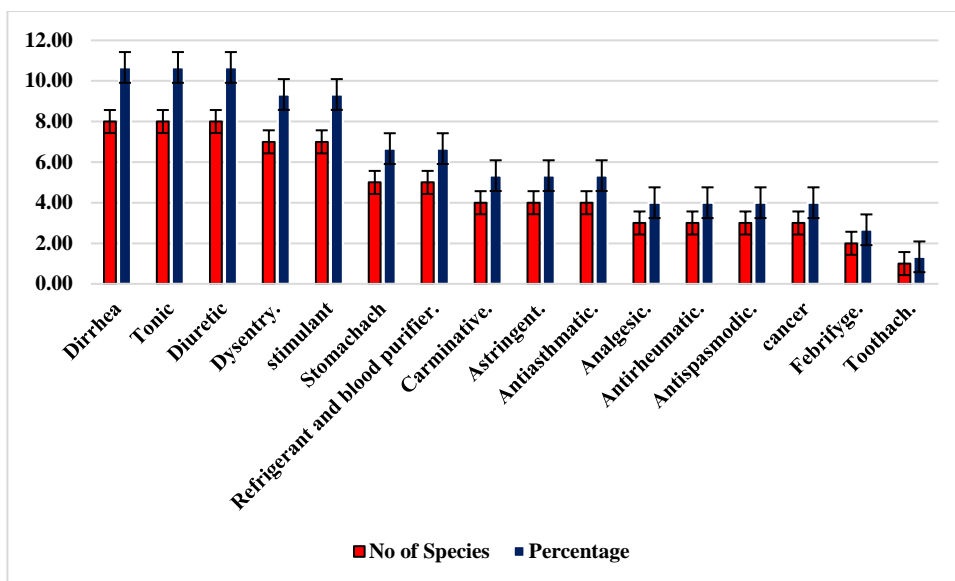| Treatments	No of Species	Percentage
Dirrhea	8.00	10.67
Tonic	8.00	10.67
Diuretic	8.00	10.67
Dysentry.	7.00	9.33
stimulant	7.00	9.33
Stomachach	5.00	6.67
Refrigerant and blood purifier.	5.00	6.67
Carminative.	4.00	5.33
Astringent.	4.00	5.33
Antiasthmatic.	4.00	5.33
Analgesic.	3.00	4.00
Antirheumatic.	3.00	4.00
Antispasmodic.	3.00	4.00
cancer	3.00	4.00
Febrifyge.	2.00	2.67
Toothach.	1.00	1.33

Fig. 3.1 Number of species and their percentages that are used for different treatments.

The 11.76% of local inhabitan used of plants species for as a fodder e.g *Rumex dentatus* L.*Cynodon dactylon* L. etc (Table 4.1). A total of 5 (5.88%) trees were used as a timber wood including *Pinus wallichiana* A.B. Jackson, *Juglan regia* Linn etc (Table 3.3).

Table: 3.3 Ethnobotanical uses of plants with number and percentage.

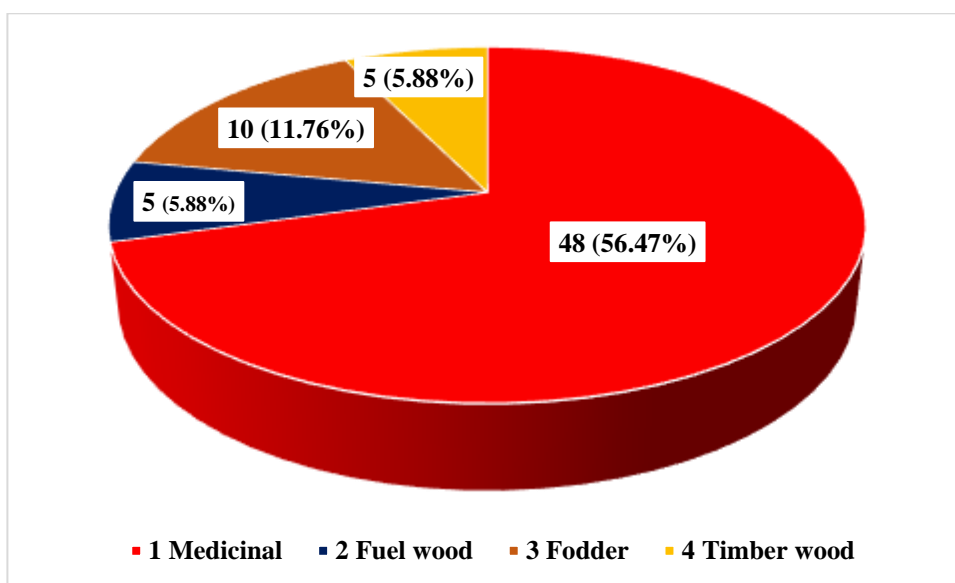| S.No	Ethnobotanical Use	No of plants	%age
1	Medicinal	48	56.47
2	Fuel wood	5	5.88
3	Fodder	10	11.76
4	Timber wood	5	5.88

Fig: 3.2 Ethnobotanical uses of plants with number and percentage.

IV. DISCUSSION

The interrelationship between plants, human over time and space is termed as Ethnobotany. Plants play an important role in functioning of all societies and operation of all ecosystems consequently (Smita et al., 2012). The local inhabitants have linked with plants and used the plants for various purposes such as medicine, construction, fuel wood and fodders etc. The study area was rich in medicinal plants. A total of 85 plants species of 41 families were recorded from different localities. Rosaceae was the dominant family with 7 plant species, followed by Poaceae and Lamiaceae. The results are in line with Dodson (1987). He also documented the families dominancy from tropical forests. Habit form of the plants show that the dominant one is herb (50.58%) followed by trees (34.11%) and shrub (15.29%) were recorded. Our results are same with Saxina et al., (1987) they studied the Himalayan forest and reported different life form of the plants from South Orissa. Different parts of the plants were used in the research area. Mostly the leaves of plant were used (24.70%), followed by whole plant (17.64%), stem (16.47%), seed (12.94%), root (9.41%), fruit (8.23%), flower (7.05%), bark and vegetative part (3.52%) of were used. Our results were similar with Sirajuddin (2007). In the research area 85 plant species were used by local inhabitants for various purposes. Mostly the people used as folk recipes. Different mode of administration was noted in which the people use the plant part by various methods. Fodder of the plant (11.76%), fuel wood (5.8%), and timber wood (5.88%) were recorded from local informants. The results are same with Sadaf et al., (2015), the studied the ethnobotany of sub-alpine and alpine regions of Pakistan. The highest informant Consensus Factor for respiratory disorder 17 species, dysentery and diarrhea 11, wounds and injuries 11, Ear, eyes nose and throat diseases, 8, Stomach disorder 8 and diuretic 8 species were recorded. In Maidan Valley the local mostly depend upon plants and used for different purposes. Mostly the people used plant for various diseases. In the research area total 85 plants were recorded. Out of 85 plants 48 plant species were used for medicinal purposes e.g. *Berberis lycium* Royle., *Mentha longifolia* L., *Thymus serphyllum* L., *Coriandrum sativum* L., *Foeniculum vulgare* Mill. Our results are similar with Ahmad et al., (2010) and Hamayun *etal*., (2005), who worked on District swat Gabral and Utror Valleys, Himalayan plateaus and 47 District Batagram and reported that plant species which were used for the treatment of various diseases and different ethnobotanical purposes. The ethnobotanical data from Maidan Dir Lower underscores the significant reliance on local flora for traditional medicinal purposes. The prevalent use of plants for treating diarrhea, as tonics, and as diuretics, each involving eight species (10.67%), indicates a deep-rooted knowledge of herbal remedies among the local population. Similarly, the utilization of seven species (9.33%) as stimulants and for treating dysentery reflects the community's familiarity with plants' therapeutic properties. In comparison, a study conducted in the Swat district of Pakistan also highlighted the extensive use of medicinal plants for similar ailments. For instance, Haq et al. (2011) found that diarrhea and dysentery were among the most commonly treated ailments using local plants, with several species overlapping between the two regions. This suggests a shared ethnobotanical heritage and possibly similar environmental conditions that support the growth of specific medicinal plants. Furthermore, the use of plants as refrigerants and blood purifiers (6.67%), carminatives (5.33%), and antiasthmatics (5.33%) in Maidan Dir Lower parallels findings from other parts of Pakistan. For example, the research conducted in the Hazar Nao Forest of Malakand Agency by Ahmad et al. (2012) identified several species used for their refrigerant and blood-purifying properties, emphasizing the widespread knowledge of these uses across different regions. In addition, the utilization of plants for treating stomachaches and as analgesics and antirheumatics in Maidan Dir Lower is consistent with the

findings of Sher et al. (2010) in the Tirah Valley, where similar species were used for gastrointestinal and pain-related conditions. This reinforces the notion that traditional medicine practices in Pakistan are deeply intertwined with the natural flora, exhibiting regional variations but also significant commonalities. The relatively lower usage of plants for conditions like cancer (4.00%) and toothaches (1.33%) might indicate either a lesser known or less effective traditional remedy for these conditions, or possibly a higher reliance on modern medical treatments for such severe conditions. However, studies such as that by Jan et al. (2009) in the Buner Valley have documented the use of certain plant species for cancer treatment, suggesting that while not as widespread, knowledge of such remedies does exist.

V. CONCLUSION

The present study was carried out in District Lower Dir tehsil Lal Qilla Maidan. To eliminate the species composition in ethnobotanical study. The study revealed that flora of District Lower Dir Maidan comprise in 85 plants species belong to 42 families. Pteridophytes had 1 family, Gymnosperms had 2 families and 38 families were Angiosperms. Based on the number of species, Rosaceae were the leading family. The dominant flora was angiosperm, herbs and trees. Habit class represent 43 were herbs, 29 were trees and 13 were shrubs, 60 were wild and the remaining species are cultivated. Ethnobotanically study indicated that the plant are primarily used is a podder 28 species, 25 species were fruits and vegetables, 22 were ornamental, 5 species were used for fuel, 5 species were used as a timber.

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