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Use of Medicinal Plants of District Bannu in Unani Medicines

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The present research work was carried out during 2012 in district Bannu to study the use of medicinal plants in Unani medicine. A total of 35 Unani medicines were reported and arranged systematically along with name of product, available form, company name, name of the plants/parts used in the drugs, family name and purpose of uses. During the research it was found that most of the members of Lamiaceae, Asteraceae and Rhamnaceae are used in these medicines. Plants which were used commonly in these medicines in one form or the other are *Ziziphus jujuba*, *Foeniculum vulgare*, *Solanum nigrum*, *Ocimum cannum* and *Zingber officinale*. It was noted that these products are mostly available in syrup form, rarely in tablets form (Hab -khoom Safa, Mensorine, Scony Tablets) and one only one product in dry powder (Supari Pak). It is generally believed that these medicines have no side effect. Interestingly one medicine is suggested for many diseases as per the given instructions in the medicine pack. It was also noted that the manufacturers of these medicines are mostly not registered that's why incomplete addresses along with the wrongly spellings plant name given on the medicine packs. The main purpose of the research was to identify and enlist the plants systematically used in these medicines.

Keyword: Medicinal Plants, Bannu, Unani Medicines.

1. Introduction

Bannu, a district of khyber pakhtoonkhwa, is situated at a distance of 190 km, in the south of Peshawar. It is bounded in the North by the Tribal Area and in the East by Karak district, while in the South by Lakki Marwat of Bannu district. It lies between 32.43 to 33.06 North latitude and from 70.22 to 70.57 East longitudes. The total area of the district is 1227 square kilometers. Its population is more than half a million. Majority of the population live in villages. Bannu is endowed with a variety of ecological zones and fascinating plant resources. Most of these plants are known to possess medicinal and economic values, and the local people in

rural area have known their uses for the past several hundred years^[1,2,3].

Medicinal plants have been under the constant vigilance of botanists and ethanobotanists to analyze its germplasm for pharmaceutical purposes as a remedy of different common diseases under different environmental regimes throughout the world. It is a never ending process and botanists have to continue their effort constantly to reveal actual ingredients and the usefulness of medicinal flora to man kind on global basis. They have a strong linkage with human health. Not only, the old ayurvedic and Unani system of medicinal treatment depend on herbal drugs but the other systems including allopathic and

homeopathic directly or indirectly depend upon the herbal drug plants for the preparation of certain synthetic drugs^[4,5].

Medicinal plants and plant-derived medicine are widely used in traditional recipes all over the world and they are becoming increasingly popular in modern society as natural alternatives to synthetic chemicals. Although Ethnobotany is highly neglected field in Pakistan, but different botanists published a series of papers on medicinal plants of Pakistan and reported that 84% of Pakistan 's population was depending on traditional medicines for all or most of their medicinal need. Present study will contribute more to the ethnobotanical information regarding flora of Bannu area^[6,7,8,9].

2. Materials and Methods

The present study was conducted during 2012 in District Bannu, to know about the use of medicinal plants in Unani medicines. For the said purpose frequent visits were arranged to the shops of Pansari, Unani Dawakhany and Hakims of District Bannu City. They provide the available literatures, sent to them by different suppliers and manufacturers. Long hour's meetings were arranged with them to know about their ideas, expertise and use of these medicinal plants for different diseases. They provide the packs of the different medicines on which clearly printed the following information: Compositions: (that includes all the medicinal plants used in the medicines), Uses, Precautions, Dosage and Side effects. The collected information was presented in different table form explained in result and discussion part of the paper^[10,11,12,13,14].

3. Results

During the present study as at whole 35 Unani medicines were reported and arranged systematically along with name of product, available form, company name, name of the

plants/parts used in the drugs, family name and purpose of uses. During the research it was found that most of the members of Lamiaceae, Asteraceae and Rhamnaceae are used in these medicines. plants which were used commonly in these medicines in one form or the other are *Ziziphus jujuba*, *Foeniculum vulgare*, *Solanum nigrum*, *Ocimum cannum* and *Zingber officinale*.

4. Discussion

The medicinal properties and effect of herb are also well known because for countless of years herbs were the only medication known to mankind. Even today, when unparallel advances have been achieved in medical science, many of them once, which have been used and approved by their own parents, grand parents or even great parents. The indigenous traditional knowledge of herbal plants of communities, where it has been transmitted orally for many years is firstly disappearing from the face of world due to transformation of traditional culture.^[15,16,17]

Today Ethno botany is widely accepted as a science of human interactions with plants and its ecosystems. It was found that medicinal plants have a strong linkage with human health. Not only, the old ayurvedic and Unani system of medicinal treatment depend on herbal drugs but the other systems including allopathic and homeopathic directly or indirectly depend upon the herbal drug plants for the preparation of certain synthetic drugs. The present attempt for such type of research work in this area was absolutely new one^[18,19,20].

The following plants like *Ziziphus jujuba*, *Foeniculum vulgare*, *Solanum nigrum*, *Ocimum cannum* and *Zingber officinale*, were used commonly in these medicine. It showed that the medicinal plants are used in the Unani medicine in one or another form. As the people of rural area where health

facilities are scarce, majority of them use these medicinal plants traditionally as medicines for different diseases. The older

people of the area knew the importance of these plants and they transfer their knowledge to the younger^[21,22,23].

Table 1: Name of product along with its available form, company name, name of plants, its family and uses

S No	Name of Product	Form	Company Name	Name of Plants/ Parts Used In The Drugs	Plants Family	Uses
1	Gulban	Syrup	Marhaba lab;	<i>Borago officinalis</i> <i>Bombyx mori</i> <i>Ziziphus vulgaris</i> <i>Cordia latifolia</i> <i>Glycyrrhiza glabra</i> <i>Linum usitatissimum</i> <i>Trachyspermum ammi</i> <i>Papaver somniferum</i> <i>Althaea officinalis</i> <i>Foeniculum vulgare</i> <i>Adiantum capillus</i>	Boraginaceae Malvaceae Rahmanaceae Boraginaceae Fabaceae Linaceae Apiaceae Papaveraceae Malvaceae Apiaceae Adiantaceae	Cough, Cold and all affections of respiratory tract
2	Urosnali	Syrup	Qarshi industries put imtd, Dist, Haripur Pakistan	<i>Solanum nigrum</i> <i>Cichorium intybus</i>	Solanaceae Asteraceae	Complete or partial urinary retention facilitate maturation, help in excretion of uric acid. Effective in kidney bladder.
3	Sherbet shehtoot siyah	Syrup	Mllat Dawa khana peshwar Pak	<i>Morus nigra</i>	Solanaceae	Cough and throat infection
4	Typhex syrup	Syrup	Amin pharma Lahore Pakistan	<i>Sisymbrium irrio</i> <i>Ziziphus vulgaris</i> <i>Glycyrrhiza glabra</i> <i>Foeniculum vulgare</i> <i>Ficus carica</i>	Brassicaceae Rahmanaceae Fabaceae Apiaceae Moraceae	Effective for typhoid Malaria, Pneumonia, Measles, Epidemic, Dysentery, whooping cough.
5	Berberis Fort	Syrup	Akram brothers unani lab Habib abad	<i>Pareia brava</i> <i>Berberis vul</i> <i>Sarsaparilla</i> <i>Solidago</i>	Berberidaceae Berberidaceae Asclepiadaceae Asteraceae	Effective against renal calculi and inflammation of the kidney and bladder
6	Ellegry Roark	Syrup	Akram brothers unani lab Habib abad	<i>Cassia china</i> <i>Spheranthus indicus</i> <i>Nymphaea lotus</i> <i>Dilbergia sissio</i> <i>Fumairtia paeviolora</i> <i>Melia azadirachta</i> <i>Swerting chirata</i> <i>Tephrosia purpurea</i> <i>Curcumca caesia</i> <i>Rosa damascena</i> <i>Chrozophra plicate</i> <i>Canscara decussate</i> <i>Terminalia chebula</i> <i>Pterocarpus santlinus</i> <i>Cuscuta reflexa</i> <i>Ocimum canum</i> <i>Lauendvia stoechas</i> <i>Tinospora cardifolia</i>	Fabiaceae Asteraceae Nymphaeaceae Fabaceae Fumaraceae Meliaceae Gentianaceae Fabiaceae Zingiberaceae Rosaceae Euphorbiaceae Gentianaceae Combretaceae Gentianaceae Combretaceae Fabiaceae Convolvulaceae Lamiaceae	These products are effective for all types of allergy.

				<i>Ipomea turpethum</i> <i>Bauhina varigata</i>	Lamiaceae Menispermaceae	
7	Pepper mint syrup	Syrup	Riaz Dawakhana Faislabad Pakistan	<i>Amomum subulatum</i> <i>Andropogon muricatus</i> <i>Cassia angustifolia</i> <i>Cinnamomum cassia</i> <i>Cinamomum officinales</i> <i>Coriandrum sativum</i> <i>Cuminum cyminum</i> <i>Foeniculum vulgare</i> <i>Menthe avensis</i> <i>Piper nigrum</i> <i>Plumbago zeylancia</i> <i>Ptychotis ajowan</i> <i>Ruta graveolens</i> <i>Solonum nigrum</i> <i>Zingiber officinale</i>	Zingiberaceae Poaceae Fabiaceae Lauraceae Lauraceae Apiaceae Apiaceae Apiaceae Lamiaceae Piperaceae Plumbaginaceae Apiaceae Rutaceae Solanaceae Zingiberaceae	It stimulate digestive system Effective for nausea, vomiting, dyspepsia, flatulence and abdominal pain.
8	Natural Ashali syrup	Syrup	The top natural secrets Lahore Pakistan	<i>Aagl marmelas</i> <i>Malus domentica</i> <i>Atropa belladonna</i> <i>Cardamom oil</i> <i>Pimpinella anisum oil</i> <i>Peppermint oil</i>	Rutaceae Rosaceae Solonaceae Zingiberaceae Apiaceae Lamiaceae	Anti-diarrhea Antispasmodic Anti-flatulence in carminative base
9	Arq-e-Gulab Ajmali	Syrup	Dawkhana Hakim Ajmal Khan Pvt-Ltd Pakistan	<i>Glycerhiza glabra</i> <i>Rosa damascene</i>	Fabaceae Rosaceae	Irritation, redness and inflammation of eye, Mild laxative for infants, mild cardiac.
10	ARQ-E-MEHZAL	Syrup	Lasani Pharma (Pvt) Ltd Lahore	<i>Badiyan</i> <i>Ajwain kharasani</i> <i>Ocimum Tenviflorum</i> <i>Mentha sylvestris</i> <i>Rosa indica</i> <i>Cichorium intybus</i>	Magnoliaceae Solanaceae Lmiaceae Lamiaceae Rosaceae Asteraceae	Tone up body shape Improve metabolism Detoxifies body and restrict absorption of toxin to body.
11	Scony Tablets	Tablet	Ishaq-Unani Dawakhana Reg; Faislabad	<i>Lepidium sativum</i> <i>Pimento dioica</i> <i>Saraca indica</i> <i>Kalancheo pinnate</i>	Brassicaceae Myretaceae Leguminaceae Crsssulaceae	Improve function of liver and stomach.
12	Iksir-e-Jiger	Syrup	Qarshi-Industries (pvt) Ltd.	<i>Viola odorota</i> <i>Foeniculum vulgare</i> <i>Cichorium intybus</i> <i>Vitis vinifera</i> <i>Borago officinalis</i> <i>Salonum nigrum</i>	Violaceae Apiaceaceae Asteraceae Vitaceae Boraginaceae Solanaceae	Effective for hepatic disorder, jaundice, anemia, liver enlargement, liver inflammation, heart burn and bladder irritation. Helpful in restoring liver and stomach function
13	Gasmonix syrup	Syrup	A quality product from phoenix pharma Hajvery Town Lahore PAK.	<i>Elletaria cardamomum</i> <i>Zingiber</i> <i>Atropa belladona</i> <i>Valerian rhizome</i> <i>Hedychium spectrum</i> <i>Rosa damascene</i> <i>Cinnamon –bark</i> <i>Foeniculum vulgare</i> <i>Barassica compestris</i>	Zingiberaceae Zingiberaceae Solonaceae Valirenaceae Zingiberaceae Rosaceae Laveraceae Apiaceae Brassicaceae	Infant colic, intestinal colic, Acute chronic dyspepsia, indigestion loss of appetite. Flatulence nausea Vomiting.

14	Gastonix Drop	Syrup	Phoenix pharma Hajvery Town Lahore PAKISTAN	<i>Zingiber</i> <i>Nutmegs</i> <i>Mint-citron</i> <i>Picrorrhiza</i> <i>Foeniculum vulgare</i> <i>Emblic- mytoblan</i>	Zingiberaceae Myristiaceae Lamiaceae Scorfulariaceae Apiaceae Fabaceae	It is anti spasmodic and anti flatulence.
15	H-Zyme syrup	Syrup	H-R Pharma international (Reg) 1 st floor zahoor building 16- Abbot Road Lahore Pak	<i>Cuminum-cyminum</i> <i>Cinnamomum tamala</i> <i>Mentha arvensis</i> <i>Valeriana officinalis</i> <i>Cinnamomum zeylanicum</i> <i>Foeniculum vulgare</i> <i>Zingiber officinale</i>	Apiaceae Lauraceae Lamiaceae Valerianaceae Lauraceae Apiaceae Zingiberaceae	Digestive enzyme Stomach problems
16	Palma-nex syrup	Syrup	Phoenix pharma 7km Multan Road Hajjuery Town Lahore Pak	<i>Ziziphus jujube</i> <i>Corn</i> <i>Liquirice</i> <i>Echium vulgare</i> <i>Vasaka</i> <i>Sochtia latifolia</i> <i>Foeniculum vulgare</i> <i>Opiam poppy</i>	Rhamnaceae Poaceae Fabaceae Boraginaceae Zingiberaceae Fabaceae Apiaceae Papaveraceae	Used for quick relief from all types of cough.
17	Link us syrup	Syrup	Herbian pharma Ltd Karachi	<i>Ahatoda vasica</i> <i>Glycerhiza glabra</i> <i>Peper glabra</i> <i>Viala longum</i> <i>Cordia latifolia</i> <i>Althea officinalea</i> <i>Alphinia galangal</i>	Acanthaceae Fabaceae Piperacea Violaceae Boraginaceae Malvaceae Zingiberaceae	Used for quick relief from all types of cough.
18	Alertis cardiales syrup	Syrup	Medifit natural division Lahore	<i>Junipor berries</i> <i>Foeniculum vulgare</i> <i>Apium</i> <i>Rhevm</i> <i>Omum seed</i>	Cupressaceae Apiaceae Apiaceae Polygonaceae Apiaceae	Used for quick relief from all types of cough.
19	Taskeen – Qulb syrup	Syrup	Anees unani pharma	<i>Hibiscus syriacus</i> <i>Eletaria cardamom</i> <i>Citrus peal</i> <i>Hibiscus rosa</i> <i>Malus domestica</i>	Malvaceae Zingiberaceae Rutaceae Malvaceae Rosaceae	Used for blood pressure cardiac weakness, nerves and muscular weakness.
20	Arque-e- Badian	Syrup	Qarshi indusrries Hripure	<i>Foeniculum vulgare</i>	Apiaceae	It is used for digestive system
21	Mensorine	Tablets	S-D-S Mughal pura Pakistan	<i>Garden nerve</i> <i>Nigell sativa</i> <i>Aloes</i> <i>Syzygium aromaticum</i> <i>Crocus sativus</i> <i>Indaian mader</i>	Acanthaceae Ranunculaceae Aloeaceae Myrtaceae Iridaceae Fabaceae	Used for menstrual disturbance
22	Saaf cool syrup	Syrup	Darman Herbal pharma Peshawar	<i>Azadirachta indica</i> <i>Ziziphus jujuba</i> <i>Fumaria</i> <i>Tinospora cordifolia</i> <i>Terminala chebulata</i>	Meliaceae Ranunculaceae Papaveraceae Menispermaceae Combricitaceae	Used as a blood purifier
23	Jeveran Tonic	Syrup	SDS Mughal pura Lahore	<i>Hibiscus abelmoschus</i> <i>Crocus</i> <i>Bombyx mori</i>	Malvaceae Iridaceae Iridaceae	Used for fatigue and general weakness.

				<i>Lavandula stoechas</i> <i>Anachyllus pyrethrum</i> <i>Cinnamomum tamala</i>	Lamiaceae Asteraceae Lauraceae	
24	Shifa- e-fisher khas syrup	Syrup	Millat dawa khana peshawer	<i>Lavandula atoehados</i> <i>Rauwalia serpentine</i> (chota chandan) <i>Trichodesma bractatum</i> (gaozaban) <i>Satalum album</i> (sandal sufaid) <i>Pterocarpus sanatlinus</i> <i>Kashneez khushk</i> <i>Balchar</i>	Lamiaceae Apocynaceae Boraginaceae Santalaceae Fabaceae Apiaceae Valeriaceae	This product is used effectively for blood pressure.
25	Safi khoon	Syrup	Qalandri dawakhana reg Lahore	<i>Indigo tinetoria (neel)</i> <i>Tephrosa purpura</i> (sarphoka) <i>Fumaria parviflora</i> (shahtra) <i>Smilax chinensis</i> (chob-chini) <i>Silax officinales</i> (Ushba) <i>Lawsonia alba (hina)</i> <i>Narkachoor</i> <i>Chirata talkh</i>	Fabaceae Fabaceae Fumarianceae Smilacaceae Smilacaceae Lythraceae Genetaceae	Digestive system relives, prevents and cure boiles, piles and skin eruption.
26	ZEE-BEX	Syrup	Pak –asian atlantic pharma Lahore Pak	<i>Emblic myoblan</i> <i>Ginger</i> <i>Winter cherry</i> <i>Beleric myrobalan</i> <i>Chebula</i> <i>Pyrethrum radix</i> <i>Ficus carica</i>	Euphorbiaceae Zingerberaceae Solonaceae Combretaceae Compositae Moraceae Moraceae	Used for starvation, general weakness, improve HBI antibiotic therapy in pregnancy and lactation.
27	Multi –F	Syrup	Pak Atli Lahore	<i>Avena sativa</i> <i>Cola cuminate</i> <i>Rhamnus fragula</i> <i>Citrus vulgaris</i> <i>Rosa damasena</i> <i>Saliva haemotodes</i>	Poaceae Malvaceae Rhamnaceae Rutaceae Rosaceae Lamiaceae	General debility, Physical exertion, Mental fatigue, Loss of appetite, Anemia, energetic Stimulating,
28	Women's care	Syrup	Qalandri Dawakhana (Reg) Lahore	<i>Berg –e-shatara</i> <i>Azadirachta indica</i> <i>Post balsool</i> <i>Asgandh</i>	Fumariaceae Meliaceae Mimosaceae Solanaceae	Effective in diseases of uterus, Uterus weakness, Hysteria, Leucorrhoea
29	Hi-card	Syrup	Hi –zone Lab Lahore	<i>Saliva haemotodes</i> <i>Foeniculum vulgare</i> <i>Citrus indica</i> <i>Cinnamomum camphoar</i> <i>Rauwalfia serpentina</i>	Lamiaceae Apiaceae Rutaceae Lauraceae Apocynaceae	Heart tonic
30	Hab –khood Safa	Tablets	Ishaq unani Dawkhan (Reg) Faisalabad	<i>Santalum album</i> <i>Zizipus vulgaris</i> <i>Smilax chinensis</i> <i>Smilax officinalies</i> <i>Sphaeranthus hirtus</i> <i>Fumer parviflora</i> <i>Citrullus colyocenthis</i> <i>Terminalia chebula</i>	Santalaceae Rhamnaceae Smilacaceae Asteraceae Fumericaceae Cucurbitaceae Combertaceae Euphorbiaceae	Used for blood purification and skin disease as itch, acne chamble, phaccher inflammation, pustles, pimple acne, effective formula for relief in constipation.

				<i>Emblica officinales</i> <i>Terminalia bellarica</i>	Combretaceae Combritaceae	
31	Golden faulad	Syrup	SDR-Mughal pur Lahore	<i>Terminalia chebula</i> <i>Terminalia bellarica</i> <i>Crocus sativus</i> <i>Santalum album</i> <i>Emblica officinales</i> <i>Rosa indica</i>	Combretaceae Combretaceae Iridiaceae Santalaceae Ephorbiaceae Rosaceae	General weakness Neuralgia Anemia Mental disorder
32	Anti – allergic	Syrup	SDR-Mughal pur Lahore	<i>Cassia duna</i> <i>Nymphaea lotus</i> <i>Rosa damascene</i> <i>Swerting chirata</i> <i>Dilbergia sisso</i> <i>Melia azadirachta</i>	Fabaceae Nympheaceae Rosaceae Genetinaceae Fabaceae Meliaceae	Anti allergy
33	Toot –Rus	Syrup	Herbian Pak pharma Karachi	<i>Morus nigra</i> <i>Viala odorata</i> <i>Ziziphus vulgaris</i> <i>Malva sylvestris</i> <i>Alhea officinale</i>	Moracea Violaceae Rhamnaceae Malvaceae Malvaceae	Used for cough Sore throat Tonsils
34	Supari Pak	Dry powder	Master Unani Lab Lahore	<i>Pedialum morex</i> <i>Areca catechu</i> <i>Butea frondosa</i> <i>Saeccharim</i> <i>Acacia cortex</i> <i>Bauhina tomentosa</i> <i>Pistacia veva</i> <i>Rubia cordifolia</i>	Pedaliaceae Arecaceae Fabaceae Poaceae Fabaceae Leguminaceae Ancardiaceae Rubiaceae	Feminine oilment Avoid abortion Preserves pregnancy
35	Irogin Tonic	Syrup	Hit Natural Pharma Lahore	<i>Zingiber officinalis</i> <i>Cinamonum tamala</i> <i>Nux vomica</i> <i>Withiana samnifera</i> <i>Card momum</i> <i>Rose gallica</i> <i>Borago officinales</i>	Zingiberaceae Lavraceae Longaniaceae Solanaceae Zingiberaceae Rosaceae Boraginaceae	General debility Anemia Pregnancy Lactation Fatigue Stress

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5. References

1. Bedi SJ. Ethnobotany of Ratan Mahai Hills, Gujrat, India. J. Econ. Bot. 1978; 32(3):278-284.
2. Bye RA. Medicinal plants of Sierra Madre. Comparative study of Tarahumara and Mexican market plants, Journal Of Econ. Bot, 1986; 40(1): 103-104.
3. Shabbir GS, Bahadur MR, Choudhry. Botanical Description, Significance and Production Technology of Some Important Medicinal Herbs. Hamdard Medicus 2003; Vol. XLVI, No. 1 pp 23-26.
4. Chaudri MN, and Qureshi RA. Pakistan endangered flora II. A checklist of rare and seriously threatened taxa of Pakistan. Pak. Syst. 1991. 5.12:1-84.
5. Durrani MJ, Manzoor M. Ethnobotanical study of some plants of S.B.K. Woman University Quetta, Pakistan. Paki.J.Pl.Sci. 2006; 12:193-207.
6. Hamayun MA, Khan. Common medicinal folk recipes of District Buner, NWFP, Pakistan. J. Ethnobot. Leaflets. USA. 2003;
7. John T, kokward JO, Kimanani EK. Herbal remedies of the Luo of Siaya District, Kenya, Establishing Quantitative criteria

- for consensus. *Econ. Bot.* 1990; 44(3) : pp. 369-381.
8. Dixit RS, Pandey HC. Plants used in folk medicine in Jhansi and Lalitpur sections of Bundalkhand, Utter Pradesh, India. *Internationi Journal of Cmde drugs Resources*, 1984; 22(I): 47-50.
 9. Shinwari MI, Khan MA. Folk use of medicinal herbs of Margalla Hills National Park, Islamabad. *Journal of Ethnopharmacology*, 1999; 69: 45-56.
 10. Nasir E, Ali SI. Flora of West Pakistan Department of Botany, University of Karachi, Karachi, 1971-2007; 112-115.
 11. Hocking CM. Pakistan Medicinal plants Qualities plantarum material vegetables, 1958; 9:103-119.
 12. Singh V, Pandey RP. Medicinal plant of the tribals of eastern Rajhastan, Indian. *Journal of Economic Taxon Botany* 1980;1(2):137-148.
 13. Ahmad M, Khan MA, Zafar. Ethnobotanical Approaches for the treatment of diabetes. By the local inhabitants of District Attock, Department of Botany, Arid University Rawalpindi, Pakistan, 2005.
 14. Qureshi R, Waheed A. Arshad M. Weed Communities of Wheat crop in district Toba Tek Singh, Pakistan. *Pak. J. Bot.*, 2009 41(1): 239-245.
 15. Hayath QM, Khan MA, Ahmad M, Shaheen, Yasmeen G, Akhtar S. Ethnotaxonomical approach in the identification of useful medicinal flora of Tehsil Pindighab (District Attock) Pakistan. *Journal of ethnobotanical leaflets*, 2008; 6:35-36.
 16. Goodman SM, Ghafoor A. The ethnobotany of southern Balochistan, Pakistan, with particular reference to medicinal plants. *Fieldiance botany* 1992; 1(31): 81-84.
 17. Haq I. Medicinal plants of Mansehra District, N. W. F. P, Pakistan. *Hamadrad Medicus* 1993; 34(3):63-99.
 18. Shinwari ZK, Gilani SS, Kohjoma M, Nakaike T. Status of Medicinal plants in Pakistan Hindukush Himalayas, Proceedings of Nepal. Japan joint, 2000; 81-84.
 19. Durrani MJ, Manzoor M. Ethnobotanical study of some plants of S.B.K. Woman University Quetta, Pakistan. *Paki.J.Pl.Sci.* 2006; 12:193-207.
 20. Wazir SM, Saima S. Dasti AA, Subhan M. Ethnoboatnical importance of salt range species of District Karak, Pakistan. *Paki. J.Pl.Sci.* 2007; 13:27-29.
 21. Chaudri MN, Qureshi RA. Pakistan endangered flora II. A checklist of rare and seriously threatened taxa of Pakistan. *Pak. Syst.* 1991; 5.12:1-84.
 22. Jan G, Khan MA, Gull S. Ethnobotanical plants used in diarrhea and dysentery in Dir Kohistan Valley,(NWFP), Pakistan. *Pakistan Journal of ethnobotanical leaflets*, 2008:12: 620-637.
 23. Khan SU, Khan RU, Jamil S, Mehmood S, I. Ullah, Zahoor M, Daud M. Biodiversity in Medicinal Plants and Its Distribution in Village Shahbaz Khel, Lakki Marwat, Kpk, Pakistan *Journal of Medicinal Plants Studies*, 2013: 1(3) Pp 78-86.