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Identification and ethnobotanical survey of profitable medicinal plants used as remedy in Sangina Pakistan

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Abstract
A study on profitable medicinal plants was assessed through semi structured intervives to document ethno medicinal knowledge of Sangina, Pakistan from March 2013 to June 2014.The peoples of the locality use 46 medicinal plant species from 31 families. Lamiaceae was the most leading familiy. They use herb (65%), shrubs (17%) and trees (17%) while part used as whole plant (39%), bark (17%), leaf (30%), root (15%), fruit (13%), seed (10%), stem (4%) and gum (2%) as herbal medicines at different percentage as diuretic (26.08%), diarrohea (10.86%), blood purification (2.17%), gastro disorders (2.17%), stomachache (13.04%), vermifuge (4.34%), fever (10.86%), cold (4.34%), cough (15.21%), tooth brush (2.17%), healing of wounds (4.34%), pain killer (10.86%), tonic (17.39%), sedative (6.52%), antiseptics (2.17%), hepatic (8.69%), diarrhea (10.86%), dysentery (10.86%), bhung (2.17%), heart diseases (6.52%), antidandruff (6.52%), and diabetes (4.34%). This study may diffuse the knowledge regarding the potential of medicinal plants in the area.

Keywords: Ethno Medicinal Survey, Sangina, Medicinal Uses, Diseases, Pakistan

1. Introduction
People are using a huge number of plant species to cure different diseases from ancient time [1]. The poor communities use medicinal plants globally which are mostly flowering plants [2]. Apart from medicinal uses, the plant species also playing a vital role in the development of the economics status of the peoples [3]. Different plant species of a particular locality can be used as hunting material, foodstuff, fuel, the source of income and medicinal purposes [4]. Because of fast marketability the business of medicinal plant species will reach to 5 trillion dollars (US) by 2050. In Pakistan, six thousand species of higher plants are found, out of them 12% are used medicinally [5]. About 84% people of Pakistan uses medicinal plants for medicinal purposes in the hilly areas [6]. The habitually Unani system of medicine is used in Pakistan but still, the people of distant areas uses plants for medicinal purposes [7]. The knowledge of medicinal plants getting power in Pakistan as a lot of work has been approved out in different medicinal plant localities of the country [8,9]. It is essential to know where and in which habitat ethnomedicinal plants occur, as such knowledge is a prerequisite to identify vulnerable plant species susceptible to collect or habitat change [10]. The study area Sangina (Batkhella) counts in Khyber Pakhtunkhwa Province formerly known as NWFP, situated in Northern Pakistan. The valley is surrounded by hills from all the sides. Geographically the area is rich in plant diversity and provides habitats for economic species as well. The climate of this area is broadly described as typically continental type. The soil is loamy and moist. The weather is a little bit pleasant in summer, but in winter it is very cold. The hottest temperature can be noted in the month of July i.e. (15.67 ^{0}C to 45 ^{0}C), while January and February are the coldest months and the temperature generally reaches to freezing point up to a temperature of mean maximum and minimum 8.8 ^{0}C to -5 ^{0}C. The average rainfall in the month of March is 119 mm. The GPS value was recorded as 2245 feet from sea level (34^0.36'.279 N, 71^0.57'.223 E). The peoples of the locality also used medicinal plants for treatment of various diseases. The survey was carried out in order to explore important wild medicinal plants which are used by the peoples of the locality, exported to other parts of the country, species which are over-exploited and are about to get threatened either due to overgrazing, deforestation and unwise use of available resources.

2. Material and Methods
2.1 Study Duration and Data Collection
The research data was collected in fifteen months. A total of five exploratory plant collection trips were arranged for plant collection and medicinal data documentation from March 2013 to

June 2014. The peoples of different age groups were interviewed and information about local name, local uses, amount, part used were inquired. Most of the aged peoples were interviewed. For authentication, the medicinal uses were also confirmed from local Hakeem/ medicinal plant dealers. A proforma was settled including all the informations for interviewing the peoples of the locality.

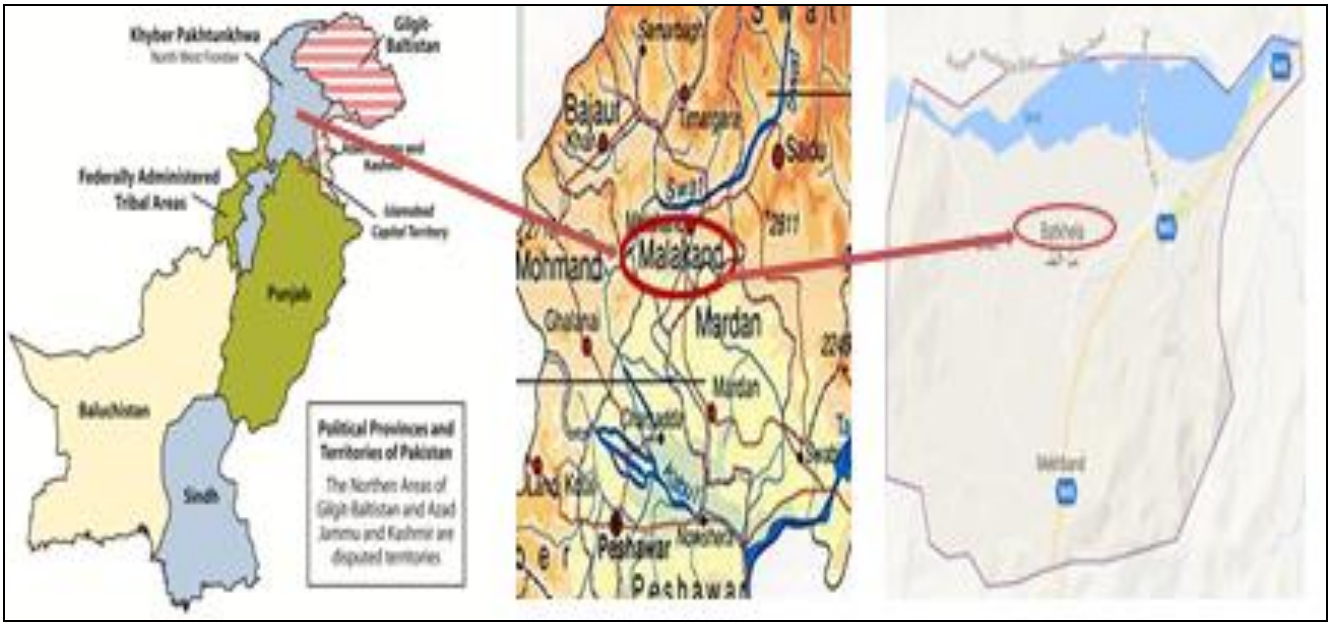

Fig 1: Map of study area from where medicinal plants were collected

2.2 Herbarium Specimen Preparation

The collected plant's specimens were pressed, dried, poisoned, mounted, identified according to standard protocol used in Herbaria and deposited under voucher numbers i.e. (Table 1) to Herbarium Department of Botany University of Malakand Pakistan. During plant collection and preparation of complete herbarium specimen, the apparatus/ equipment was used. News halves, press straps, field notebook, diggers and clippers, hand lens, collecting bottles, mercuric chloride, ethanol, collecting bags, waxed paper, envelope, cardboard, insecticides and repellents, Maps, camera, color charts, hand Pruner, Rope, pencil, cutter, GPS, field presser, Driers (blotters), No. tages, Ethanol etc. were used. Mounted the dried plant specimens on herbarium sheets of size, 11.5x16.5 inches with glue and cloth tape after the removal of the extra parts from the specimen for obtaining morphological data for their identification.

2.3 Identification

The collected plant specimens were identified in Herbarium Department of Botany at University of Malakand Pakistan through taxonomist and Flora of Pakistan [11, 12]. Plant nomenclature was updated using the World Checklist of Selected Plant Families (http://apps.kew.org/wcsp/home.do) and The Plant List (www.theplantlist.org/). The specimens were deposited to Herbarium Department of Botany at University of Malakand Chakdara Dir (L.) KP, Pakistan for future reference (Table 1).

3. Results

In the current study, ethnobotanical survey of important wild medicinal plants of Sangina Pakistan was carried in which 46 plants were listed belongs to 31 families (Table 1). The results obtained were based on semi structured inerterviews and questionnaire developed for survey conduction. Results showed that 46 plants were used for medicinal purposes, in which 1 plant for Blood Purification, 1 plant for gastro disorders, 6 plants used for stomachache, 2 plants for cattle as vermifuge, 5 plants for treatment of fever, 2 plants for cold, and 7 plants for cough, 1 plant for making toothbrush, 2 plants for healing of wounds and other skin disorders, 12 plants useful for diuretic, 2 plants were useful in diabetes, 5 plants for relief in pain, 8 plants as a tonic or stimulant, 3 plants as sedative,1 plant antiseptics, 4 plants for hepatic disorders, 5 plants for diarrhea,5 plants for dysentery, 1 plant for Bang, 1 plant as a source of wood and fuel, 3 plants used for heart diseases, 1 plant was found to be used as a source of vegetable and fruits by the local inhabitants, 3 plants were found to be useful as an antidandruff and anti-hair fall, 3 plants as thatching material (craft of building), 1 plant for ornamental purpose. Most of the species were found to be used for multiple purposes by the local inhabitants of the area. The peoples of the locality used approximately 46 medicinal plant species for numerous diseases e.g., diuretic (26.08%), diarrhea (10.86%), Blood purification (2.17%), gastro disorders (2.17%), stomachache (13.04%), vermifuge (4.34%), fever (10.86%), cold (4.34%), cough (15.21%), toothbrush (2.17%), healing of wounds (4.34%), pain killer (10.86%), tonic or stimulant (17.39%), sedative (6.52%), antiseptics (2.17%), hepatic disorders (8.69%), diarrhea (10.86%),dysentery (10.86%), Bang (2.17%), wood and fuel (2.17%), heart diseases (6.52%), antidandruff and anti-hair fall (6.52%), thatching material (6.52%), ornamental (2.17%), and diabetes (4.34%). Plant part used were whole plant (39%), bark/pods (17%), Leaf (30%), Root (15%), Fruit (13%), Seed (10%), Stem (4%) and Gum (2%) (Figure 4) Lamiaceae, Euphorbiaceae, and Solanaceae were the most leading families with respect to medicinal uses. The habit was found as a herb (65%), Shrubs (17%) and trees (17%) (Figure 5). Detail regarding chemical constituents of plant species was also observed. (Table 2).

Table 1: A list of Medicinal Plants used as medicine in Sangina

Botanical Name	Family	L.Name	Habit	Part Use	Medicinal Uses	Mode of application	V. Number
Acacia farnesiana. L.	Mimosaceae	Vilayati Kikar	Tree	Bark/ Pods	Bleeding Gums, Stomachic, Spermatorrhoea	Oral	H.UOM.BG.112
Acacia nilotica. L.	Mimosaceae	Kikar	Tree	Bark, Pods, Seed	Diarrhea, Dysentery, Expectorant	Oral	H.UOM.BG.113
Ajuga bracteosa Wall.	Lamiaceae	Tharkha Booti	Herb	Whole Plant	Diuretic, Fever, Hepatitis	Oral	H.UOM.BG.114
Berberis lyceum Royle.	Berberidaceae	Kwaray	Shrub	Roots/ Shoots	Stomachic, liver disorder, Antiseptic, Diarrhea	Oral/ External	H.UOM.BG.115
Boerhavia procumbens B.	Nyctaginaceae	Baskapra	Herb	Whole Plant	Laxative, Expectorant, Diuretic, Antiasthmatic	Oral	H.UOM.BG.116
Brassica compestris L.	Brassicaceae	Sharsham	Herb	Seed/ Leaves	Rubifacient, Counter irritant, Relaxant,	Oral/ External	H.UOM.BG.117
*Calotropis procera.*W.	Campanulaceae	Spalmai	Shrub	Whole Plant	A cough, Asthma, Dysentery,	Oral	H.UOM.BG.118
Cannnabis sativa L.	Cannabinaceae	Bhang	Herb	Leaves	Pain Killer, Sexual stimulant, antidandruff	Oral/ External	H.UOM.BG.119
Capsella bursa-pastoris L.	Brassicaceae	Bambesa	Herb	Arial Parts	Stimulant, astringent, Diarrhea	Oral	H.UOM.BG.120
Centaurea iberica T.	Celastraceae	Kareza	Herb	Seeds	Stomachic, Herat diseases	Oral	H.UOM.BG.121
Chenopodium botrys L.	Chenopodiaceae	Kharawa	Herb	Whole Plant	A cough, Vermifuge, Hepatitis	Oral	H.UOM.BG.122
Chorozophora tinctoria L.	Euphorbiaceae	Kuronda	Herb	Whole Plant	Emetic, Cathartic	Oral	H.UOM.BG.123
Cichorium intybus L.	Asteraceae	Han	Herb	Leaves/Roots	Tonic, Asthma, Astringent	Oral	H.UOM.BG.124
Convulvulus arvensis (Linn.)	Convolvulaceae	Prewathkai	Herb	Whole Plant	Purgative, cause Nausea,	Oral	H.UOM.BG.135
*Cotoneaster microphyllus*W.	Rosaceae	Mamanra	Shrub	Leaves, Solon	Astringent, Tonic,	Oral/ External	H.UOM.BG.125
Cymbopogon citrates (DC.)	Poaceae	Lemon Grass	Grass	Leaves	Improve digestion,clear skin, Reduce weight	Oral/ External	H.UOM.BG.126
Daphne mucronata Royle	Thymelaceae	Laghonay	Shrub	Whole Plant	Purgative, Swellings, Gastrointestinal	Oral/ External	H.UOM.BG.127
Dedonea viscosa L.	Spindaceae	Ghwaraskay	Shrub	Bark, Seed	Burn, Swellings, astringent, Wound	Oral/ External	H.UOM.BG.128
Dhatura innoxia Mill.	Datiscaceae	Dathora	Herb	Seed, Leaves	Sedative, Gonorrhea, Anodyne	Oral	H.UOM.BG.129
Eucalyptus lanceolata L.	Myrtinaceae	Lachi	Tree	Gum	Astringent, Pharyngitis	Oral	H.UOM.BG.130
Euphorbia helioscopia Linn.	Euphorbiaceae	Mndano	Herb	Root, Stem,Leaves	Constipation, Purgative, Anthelmintic	Oral/ External	H.UOM.BG.131
Euphorbia hirta Linn.	Euphorbiaceae	Zmakin Ghoz	Herb	Whole Plant	A cough, Diuretic, Expectorant	Oral	H.UOM.BG.132
Filago Hurdwarica (Wall.	Fagaceae	Khard Botay	Herb	Whole Plant	Fever, Cough,	Oral	H.UOM.BG.133
Fumaria indica (Hausskn.)	Fumaricaceae	Papra	Herb	Whole Plant	Hepatitis, Cough, Asthma	Oral	H.UOM.BG.134
Melia azedarach Linn.	Meliaceae	Thora Shandai	Tree	Leaves, Fruit	Diuretic, Anthelmintic, Rheumatism	Oral/External	H.UOM.BG.136
Mentha arvensis Linn.	Lamiaceae	Podina	Herb	Whole Plant	Carminative, Stomachic, Diuretic, Stimulant	Oral	H.UOM.BG.137
Mentha longifolia L.	Lamiaceae	Welanay	Herb	Whole Plant	Carminative, Colic, Dysentery	Oral	H.UOM.BG.138
Morus alba L.	Moraceae	Spin Tooth	Tree	Fruit, Bark	Tonic, Purgative, anthelmintic	Oral	H.UOM.BG.139
Morus nigra L.	Moraceae	Thoor Tooth	Tree	Fruit, Bark	Refrigerant, Tonic, Purgative, anthelmintic	Oral	H.UOM.BG.140
Nerium oleander L.	Apocyanaceae	Ghanderay	Shrub	Whole Plant	Diuretic, Cathartic,	Oral	H.UOM.BG.141
Olea ferruginea Royle	Oleaceae	Khona	Tree	Fruit, Bark	Rubefacient, Astringent, Skin, Fever and debility	Oral/External	H.UOM.BG.142
Otostegia limbata(Benth)	Lamiaceae	Spin Azghay	Shrub	Whole Plant	Gum Diseases, Antiseptic, Cure Wounds	Oral/External	H.UOM.BG.143
Oxalis corniculata L.	Oxalidaceae	ZmakinTharokay	Herb	Whole Plant	Fever, Stomachic,	Oral	H.UOM.BG.144
Physalis minima L.	Solanaceae	Aknaj	Herb	Fruit	Otitis, Tonic, Diuretic	Oral	H.UOM.BG.145
Plantago lanceolata Linn.	Plantaginaceae	Ghwa Jabai	Herb	Whole Plant	Purgative, Bronchitis	Oral	H.UOM.BG.146
Platanus orientalis L.	Platanaceae	Chinar	Tree	Leaves, Bark	Ophthalmic, Toothache, Dysentery	Oral	H.UOM.BG.147
Ricinus communis L.	Euphorbiaceae	Arhanda	Shrub	Seeds	Purgative, Jaundice	Oral	H.UOM.BG.148
Rumex dentatus L.	Polygonaceae	Shalkhay	Herb	Root, Leaves	Astringent, Emollient	Oral	H.UOM.BG.149
Rumex nepalensis L.	Polygonaceae	Tharokay	Herb	Roots	Purgative	Oral	H.UOM.BG.150
Salvia moorcroftiana L.	Lamiaceae	Khardag	Herb	Roots, Leaves	Wound, Cough, Pain Killer	Oral	H.UOM.BG.151
Solanum nigrum Auct.	Solanaceae	Kamacho	Herb	Whole Plant	Expectorant, Laxative, Leprosy, Sedative	Oral	H.UOM.BG.152
Solanum surattense Burm f.	Solanaceae	Maraghonay	Herb	Whole Plant	Asthma, Pain Killer, dropsy, Diuretic	Oral/External	H.UOM.BG.153
Teucrium stocksianum Boiss.	Lamiaceae	Khar batay	Herb	Whole Plant	Stimulant, Diaphoretic, Jaundice	Oral	H.UOM.BG.154
Tribulus terrestris Linn.	Zygophyllaceae	Markundai	Herb	Fruit	Cough, Urinary Disorders	Oral	H.UOM.BG.155
Verbascum thapsus L	Scrophulariaceae	Khar Ghwag	Herb	Leaves,Seeds,Root	Emetic, Colic, Dysentery, Cough, Cold	Oral	H.UOM.BG.156
Xanthium strumarium Linn.	Asteraceae	Gesh kay	Herb	Whole Plant	Sedative, Diuretic, ulcers, Toothache, Emolent	Oral	H.UOM.BG.157

Table 2: Chemical constituents of medicinal plant species

S. No	Botanical Name	Family	Chemical Constituents	References
1	*Acacia farnesiana*. L.	Mimosaceae	Caumarin, Linamarin, Flavonoids, Acids	Shinwari *et al*., 2006
2	*Acacia nilotica*. L.	Mimosaceae	Alkaloids, Essential oils, Tannin, Lignin, terpenes, phenols	Shinwari *et al*., 2006
3	*Ajuga bracteosa Wall.*	Lamiaceae	Alpha, Beta sistosterol, acids, alkaloids, glycosides	Shinwari *et al*., 2006
4	*Berberis lyceum* Royle.	Berberidaceae	Berbamine, Alkaloids, Starch, Tanin	Shinwari *et al*., 2006
5	*Boerhavia procumbens* B.	Nyctaginaceae	Alkaloid, Punarnavine	Shinwari *et al*., 2006
6	*Brassica campestris* L.	Brassicaceae	Essential oil, Euric acids, Sinergin	Shinwari *et al*., 2006
7	*Calotropis procera.*W.	Campanulaceae	Calotropin, Calotropagnin, Calotoxin	Shinwari *et al*., 2006
8	*Cannnabis sativa* L.	Cannabinaceae	Cannabinine, Cannabinol, Phenolic compounds	Shinwari *et al*., 2006
9	*Capsella bursa-pastoris* L.	Brassicaceae	Bursin, Choline, Saponin, oil, Malic, Tartaric acids	Shinwari *et al*., 2006
10	*Centaurea iberica* T.	Celastraceae	Essential oils, caryophyllene oxide, spathulenol	Shinwari *et al*., 2006
11	*Chenopodium botrys* L.	Chenopodiaceae	Chenopodosides A and B, Essential oil	Shinwari *et al*., 2006
12	*Chorozophora tinctoria* L.	Euphorbiaceae	Chrozophorogenin, Chrozophoroside	Shinwari *et al*., 2006
13	*Cichorium intybus* L.	Asteraceae	Enulin, Oil, Sugars, Nitrogenious matter, Sulphate	Shinwari *et al*., 2006
14	*Convulvulus arvensis* L.	Convolvulaceae	Chicoric acid, Inulin, Flavonoids, Essential oils	Shinwari *et al*., 2006
15	*Cotoneaster microphyllus*W.	Rosaceae	Sorbitol, Glucosides, Prulaurasin	Shinwari *et al*., 2006
16	*Cymbopogon citrates* (DC.)	Poaceae	Citrol, Terpine, Citrol, Ionone	Shinwari *et al*., 2006
17	*Daphne mucronata* Royle	Thymelaceae	Daphnin, Glucoside, Daphentin	Shinwari *et al*., 2006
18	*Dedonea viscosa* L.	Spindaceae	Dodonine, Tanin, Gum, Resin, Acids, Alcene and Idogenin	Shinwari *et al*., 2006
19	*Datura innoxia* Mill.	Datiscaceae	Commercial source of scopolamine	Shinwari *et al*., 2006
20	*Eucalyptus lanceolata* L.	Myrtinaceae	Kino tanic acids, Kinonin, Pyrocatechin	Shinwari *et al*., 2006
21	*Euphorbia helioscopia* Linn.	Euphorbiaceae	Saponin, Phasin, Fatty oil,	Shinwari *et al*., 2006
22	*Euphorbia hirta* Linn.	Euphorbiaceae	Gallic acids, Tanin, Resin, Faty acids, Triacotane	Shinwari *et al*., 2006
23	*Filago Hurdwarica* W.	Fagaceae	Sugar, Oil, Alkaloids,	Shinwari *et al*., 2006
24	*Fumaria indica* (Hausskn.)	Fumaricaceae	Fumaric acids, Alkaloids, Tanin, Sugar	Shinwari *et al*., 2006
25	*Melia azedarach* L.	Meliaceae	Alaloid azarridine, Tanin, Resin, Melotonic acids, Bakayanin	Shinwari *et al*., 2006
26	*Mentha arvensis* L.	Lamiaceae	Essential oil, Citronellol, Carvone, Carene	Shinwari *et al*., 2006
27	*Mentha longifolia* L.	Lamiaceae	Contain volatile oil, Thmol, Resin, Gum, Tanin	Shinwari *et al*., 2006
28	*Morus alba* L.	Moraceae	Mulberrin, Hallucinogens, Morusin, Albactalol	Shinwari *et al*., 2006
29	*Morus nigra* L.	Moraceae	Hallucinogens	Shinwari *et al*., 2006
30	*Nerium oleander* L.	Apocyanaceae	Oleadrin, Glucosides, Neriin, Folinerin, Cortenerin	Shinwari *et al*., 2006
31	*Olea ferruginea* Royle	Oleaceae	Fatty oil, Glucoside oleupein	Shinwari *et al*., 2006
32	*Otostegia limbata*(Benth)	Lamiaceae	Copaene, Hexadecanoic acid, Verbenol, Essential oil	Shinwari *et al*., 2006
33	*Oxalis corniculata* L.	Oxalidaceae	Oxalic acids	Shinwari *et al*., 2006
34	*Physalis minima* L.	Solanaceae	Medicinal oil, bitter principle physalin	Shinwari *et al*., 2006
35	*Plantago lanceolata* L.	Plantaginaceae	Mucilage, Glucoside aucubin	Shinwari *et al*., 2006
36	*Platanus orientalis* L.	Platanaceae	Allantonin, Aspargin, d-Allantonin	Shinwari *et al*., 2006
37	*Ricinus communis* L.	Euphorbiaceae	Ricinine, Toxalbumin, Fixed oil	Shinwari *et al*., 2006
38	*Rumex dentatus* L.	Polygonaceae	Chrysophanol, Emodin	Shinwari *et al*., 2006
39	*Rumex nepalensis* L.	Polygonaceae	Chrysophanic acids, Nepodin, Tanin	Shinwari *et al*., 2006
40	*Salvia moorcroftiana* L.	Lamiaceae	Essential oil, Mucilage	Shinwari *et al*., 2006
41	*Solanum nigrum* Auct.	Solanaceae	Alkaloid Solanine, Solanidine, Saponin	Shinwari *et al*., 2006
42	*Solanum surattense* Burm f.	Solanaceae	Solanocarpine, Solanocarpidine, Solanines	Shinwari *et al*., 2006
43	*Teucrium stocksianum* Boiss.	Lamiaceae	Volatile oil, Tanin and a bitter principle	Shinwari *et al*., 2006
44	*Tribulus terrestris* L.	Zygophyllaceae	Alkaloids, Fixed oil, Resin, Nitrate, Selenium	Shinwari *et al*., 2006
45	*Verbascum thapsus* L	Scrophulariaceae	Saponin, Bitter substances	Shinwari *et al*., 2006
46	*Xanthium strumarium* L.	Asteraceae	Glucoside xanthostrumarin, Oxalic acid	Shinwari *et al*., 2006

Fig 2: Important medicinal plants of the study area

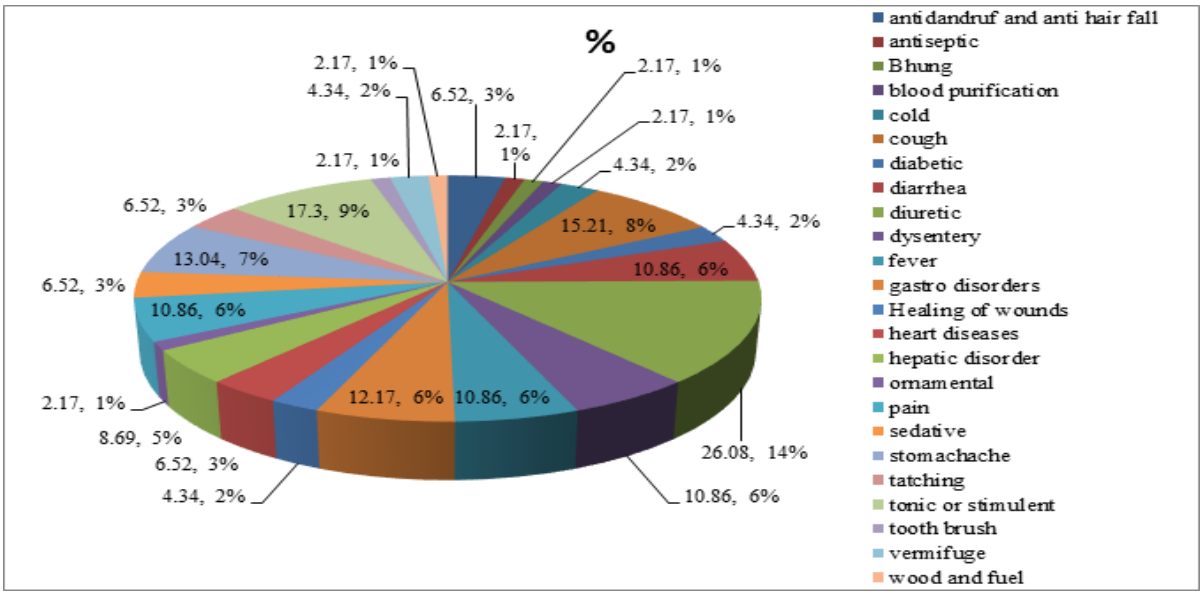

Fig 3: Percentage medicinal uses for treatment of different disorders

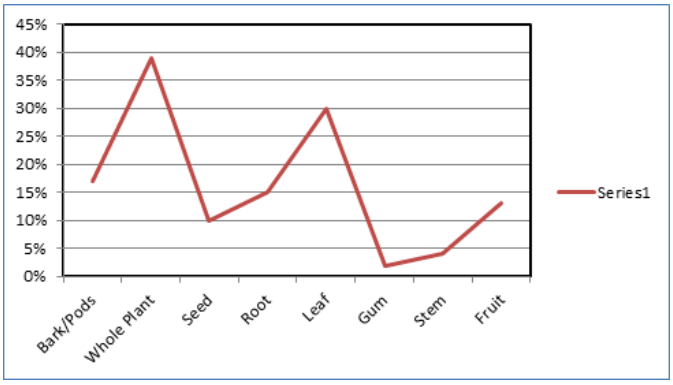

Fig 4: Percentage of plant part used

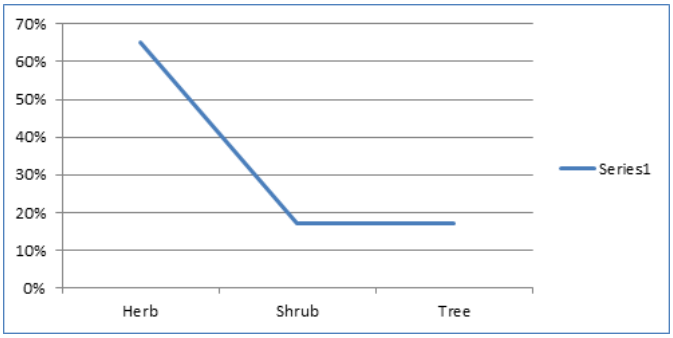

Fig 5: Percentage of plants habit used

4. Discussion

The use of plant specices for the treatmrnt of different health disorders is very ancient and this knowledge has been transferred from generation to generation orally and practically [13].

Solanum nigrum used to treat skin inflammation and liver problems. The leaves of *Daphne macronata* are used as purgative and shoots as fuel. *Ajuga bracteosa* relieves abdominal pain, itch and effectively use in jaundice. *Acacia nilotica* gum is used for removal of abdominal worms and flowers for a cough. The bark of *Berberis lyceum* is used for treatment hepatitis, as a blood purifier and throat infection [14]. The present study found that, *Solanum nigrum* is used as expectorant, laxative, and sedative. *Daphne macronata* as purgative, gastrointestinal, cure swellings and dressing tumors. *Ajuga bracteosa* is taken against fever and hepatitis. *Acacia nilotica* is used for the treatment of diarrhea, dysentery, and the twigs are used to make tooth brushes (Miswak). *Berberis lyceum* is taken by the peoples of the locality for stomach and liver disorders.

The leaves of *Canabis sativa* are used for the preparation of 'charas' (a sedative drug) and wound healing. *Euphorbia helioscopia* is used as fish poison cathartic and anthelmintic. The leaves of *Mentha longifolia* is used for diarrhea (mostly mixed with yogurt) stomach ache and carminative. The fruit of *Morus nigra* is used as laxative, leaves are emollient, anthelmintic, astringent and cleaning agent. The fruit of *Morus alba* is used as laxative, purgative. Leaves are emollient, used for cleaning throat. *Convulvulus arvensis* is used as purgative, cooling agent, anti-diabetic, antibacterial, anthelmintic and astringent and cures skin diseases. The leaves of *Mentha arvensis* are used as stimulant, carminative and mouthwash. It is helpful in dyspepsia. *Eucalyptus lanceolata* is used as flavoring agent (in tea), stem antiseptic, antiperiodic. The shoot of *Boerhavia procumbens* is used to cure wounds. The seeds are as used as diuretic. Seeds powder is useful in cough and asthma. *Oxalis corniculata* is used as vermifuge, refrigerant; Leaves are useful in fever and dysentery. *Platinus orientalus* bark is used for tooth ache and diarrhea. *Rumex dentatus* is used as diuretic, purgative, astringent and demulcent. *Verbascum thapsus* is use used as analgesic, antiseptic and wounds healing. Seeds are narcotic and used as fish poison. Leaves are used to treat rheumatic pains. *Solanum surattense* is used as expectorant, stomachic and diuretic. It is used in asthma, cough, fever, gonorrhea and pain in chest. The powdered drug is used for headache, toothache and nose irritation. *Tribulus terrestris* is used as a tonic and to treat rheumatic pains. [4,15].

According to the present survey conducted *Canabis sativa* is a nacrotic drug and used to treat malaria, blood poisoning, dysentery and taken as pain killer. The milky juice of *Euphorbia helioscopia* is poisonous cause skin scrofula, stem is use for constipation and roots abdominal worms. *Mentha longifolia* used as carminative treat diarrhea and dysentery. *Morus nigra* is used as vermifuge, laxative, refrigerant, diuretic and expectorant. *Morus alba* is used as refrigerant, purgative and anthelmintic. *Convulvulus arvensis* is used as purgative, cause nausea, disturbances of dilation of pupil and hallucinations. *Mentha arvensis* is used as antispasmodic, carminative, stomachic, stimulant and diuretic. *Eucalyptus*

lanceolata is used as astringent, antiseptic and mosquito repellant. *Boerhavia procumbens* is us diuretic; laxative; expectorant; stomachic; and antiasthmatic, laxative and useful in dropsy. *Oxalis corniculata* is taken in high fever and stomach ache. *Platinus orientalus* is used in opthalmia, hernia, toothache, diarrhea and dysentery. *Rumex dentatus* is used as astringent, emollient and to treat cutaneous disorders. *Verbascum thapsus* leaves are used as heamorroides, and taken in dysentery, cough and cold and used as colic. *Solanum surattense* is diuretic and used in dropsy, cough, asthma, sore throat. *Tribulus terrestris* fruit is very useful in urinary disorders, impotence, cough, heart diseases and spermatorrhoea.

The roots of *Calotropis procera* are used to remove pus from gums. Leaves used to cure asthama and bronchitis. *Euphorbia hirta* is used to treat coughs, bronchial and pulmonary disorders [16]. According to present survey *Calotropis procera* is taken in cold, cough and asthma. *Euphorbia hirta* used as remedy for coughs, bronchial, pulmonary disorders, and diuretic

Dodonea viscosa is used to heal burns parts. *Fumaria indica* is used as a fodder and blood purifier. *Melia azedarach* is used for flatulence in animals, leaves are used as insecticide. *Nerium oleander* is used as toothache and pharangaties. The fruit of *Olea ferrugenea* is stronger appetizer, oil is used for rheumatism. Leaves are used for toothache, mouth ulcer and soar throat. *Fumeria indica* is taken in asthama [17]. According to the present survey leaves of *Dodonea viscosa* are used to heal wounds, burns and swelling, bark is used as astringent. *Fumeria indica* is taken in asthama, paralyse, and cough. *Melia azedarach* is taken as diuretic, anthelmintic and seeds are used in rheumatism. *Nerium oleander* is poisonous and used as diuretic and cathartic. *Olea ferrugenea* is taken in fever and digestive disorders, massage of body and hair.

Datura innoxia is used as repellant and vermicide. Fruit is used to heat up the buffalos. Seeds are used to cure scabies. According to present survey *Datura innoxia* is used as sedatives and anodyne [18]. *Brassica compestris* is used as vegetable, source of oil, massage of body and hair, fodder for animals. It provides high volume of vitamin and other nutrient which is anticancer. It has antiviral and antibacterial properties. *Chenopodium botrys* used for washings utensils, cooling agent and taken in infections [19].

The current study specified that *Brassica compestris* oil used as rubifacient, counter irritant, hairs restorers facial acne and muscular skeletal relaxant. Leaves used to improve digestive disorders, oil cakes given to cattles to increase milk flow. *Chenopodium botrys* is used as vermifuge and useful in hepatitis. *Xanthium strumarium* is effectively used in Malaria and *Plantago lanceolata* is used to treat gonorrhea [20]. The current survey found that *Xanthium strumarium* used as sedative, emollient, astringent, diuretic, strong diaphoretic, and toothache. *Plantago lanceolata* as purgative, *Ricinus communis* is useful in rheumatism, constipation, swelling and arthritis. Leaves are narcotic, poisonous and purgative. *Ricinus communis* as purgative, counter irritant in scorpion sting and hair-restorer.

Salvia mucroptiana leaves are applied to wounds as poultice. Seeds are given in cough and cold *Accacia nilotica* is used as antispasmodic, aphrodisiac and astringent. *Cichorium intybus* increase bile secretion [21, 22]. Current survey noticed that *Salvia moocroptiana* is taken in diarrhea, cough and body pain. *Accacia nilotica* is taken in diarrhea, dysentery and stomachic. *Cichorium intybus* increase bile secretion and used to promote digestion. The plant is tonic, astringent and very useful in asthama and spleen enlargement locally.

The root of *Accacia fernesiana* used for Burning sensation during urination, frequent urination, difficulties in urination and lower abdominal pain. *Capsella bursa pestoris* used in meal, roasted, soup and salad [23]. According to the current study *Accacia fernesiana* is taken in bleeding gums, and to treat leucorrhoea and spermatorrhoea. *Capsella bursa pestoris* is used as stimulant, astringent, antiscorbic and lowers down blood pressure. *Centaurea iberica* is used as a tonic, choleretic and appetitive while locally *Centaurea iberica* is taken in body weakness, Heart diseases and stomach pain [24]. *Cotoneaster microphylus*is used as astringent and fodder. *Rumex nepalensis* as refrigerant and enhance digestion. *Teucrium stocksianum* taken as expectorant. *Salvia moocroftiana* applied on skin to release puss. *Chorozophora tinctoria*is is taken to remove emetic disorders. *Cymbopogon citrates* is a source of vitamins and used as herbal tea and used to treat cough and fever [25].

Curent survey showed that *Cotoneaster microphylus* used as astringent, tonic and blood purifier. *Rumex nepalensis* as purgative. *Salvia mucroftiana* is effective in Diarrhea, wound and cough. Otostegia limbata is used in gum diseases and cure wounds. *Teucrium stocksianum* is used as expectorant and curing sore throat and hepatitis. *Otostegia limbata* is used as pain killer and antiseptic. *Teucrium stocksianum* is used as stimulant, diaphoretic, diuretic and very useful in jaundice. *Chorozophora tinctoria* is poisonous used as emetic and cathartic. *Cymbopogon citrates* improve digestion, clear skin and is effectively used in weight loss.

5. Conclusion

The peoples of the locality were found uneducated regarding the sustainable and wise use of the medicinal plant flora of the study area. The peoples of the locality deprived regarding proper collection of medicinal plant species for health care needs and marketability. At present time diffusion of such knowledge from herbalists to the public had been enormously decreased. The local plant dealers and herbalist are unwilling to share the knowledge regarding medicinal plants with the peoples of the locality. Medicinal plant species in the area are essential for peoples of the locality, yet they are subjected to pressure of livestock and man-made activities. Because of these threats the density of medicinally important plants like *Berberis lyceum, Otostegia limbata* and *Teucrium stocksianum* are under pressure. It was also observed that most of the indications prescribed are related to the local society diseases like, diarrhea, diabetes, fever, asthma etc. which will be absolutely supportive for the members of the society of developing country like Pakistan.

6. Recommendations

1. Further exploratory trips should be arranged for further exploration.
2. Development of restoration and conservative strategies.
3. Peoples of the locality should be educated regarding the importance of Medicinal plants.
4. Wise use of local resources is recommended.
5. Hiring inspective committees are recommended.

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