

PHYTOTHERAPY AMONG THE RURAL WOMEN OF DISTRICT ABBOTABAD

GHULAM MUJTABA SHAH*, ZAFAR JAMAL AND MANZOOR HUSSAIN

Department of Botany Govt. Postgraduate College Abbottabad

**Corresponding author's e-mail: gmujtabashah72@yahoo.com*

Abstract

The present communication highlights the scope of ethnomedicinal plants for women's health care in Abbottabad district, Northern Pakistan. Participatory Action Research (PAR) and field visits were planned to elicit information on the uses of various medicinal plants by women. Field trips were undertaken covering different rural and tribal populated areas of the district to document ethnomedicinal plants used by women for the treatment of various diseases. The women chieftains were accorded a significant role in discussions since they possess more cognizances about the utility of local herbal products in curing various diseases. The study revealed that 67 plant species belonging to 65 genera and 47 families are used in women's folk medicinal system. The medicinal plants are mostly used to cure amenorrhoea, skin allergies, and leucorrhoea, as abortifacient, post delivery pain, dandruff, eczema, tonic after delivery and for breast milk secretion. All these herbal medicines belong to 65.67% herbaceous ground flora, 8.95% shrubs, 22.38% trees and 2.98% climbers. Resins, exudates, leaves, shoots, fruits, seeds, bark, tubers and roots are the plants components which are utilized as medicinal ingredients. Plant components are used fresh, dried or both. Further research is needed to isolate the compounds responsible for the observed biological activity.

Introduction

Plants have been used in various traditional medicinal systems for the treatment of human ailments. Traditional medical knowledge of medicinal plants and their use by indigenous cultures are not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development in the present and the future (Pei, 2001). The tribal and rural people primarily depend on locally available plants for healthcare and treatment of diseases prevailing in men, women and children. Such health care practices are all culturally, socially and environmentally closure to the masses and were systematically recorded and incorporated in pharmacopeias of many eastern countries like India, China and become the *Materia Medica* of the traditional medicine. About 80% of the total human population still depends on traditional remedies together with folklore system based mainly on phytotherapy (Azaizeh *et al.*, 2003). According to a report of the World Health Organization (WHO), over three-fourths of the World population cannot afford modern medicines and have to rely on the use of traditional medicines of plant origin. In the context of the present day scenario of methods of ailment cures, it is very important to find some alternate medicine system for the treatment of ever changing nature of diseases, especially for those which do not need prolong treatment and may be cured by use of herbal products (Baquar, 1989). About 6000 species of flowering plants have so far been identified and documented in Pakistan and among these there are more than 600 medicinal plants (Nasir & Ali, 1971-91). To document the secret uses of the plants, ethnobotany has become an important part of our world (Siraj-ud-Din, 2006). The traditional knowledge on the uses of plants as medicines by the healers and tribal communities is mainly passed on verbally from generation to generation. In Pakistan, the field of ethnobotany is virgin and has been introduced recently but in recent years a lot of work has

been done in this field by many researchers (Chaudhri, 1959; Farooq, 1990; Haq & Hussain, 1993; Hussain & Khaliq, 1996; Shinwari & Khan, 1999; Gilani *et al.*, 2001; Matin, 2001; Siyal, 2003; Zaidi & Crow, 2005; Sher & Hussain, 2007; Shah, 2007; Baquar, 1995; Qureshi *et al.*, 2008, Abbasi *et al.*, 2010, Tareen *et al.*, 2010, Khan Khan, 2011; Hazrat *et al.*, 2011; Noor & Kalsoom, 2011 & Shaheen *et al.*, 2012) but no information is given about the plants used by women especially to cure women related ailments. Many research reports are available on ethnomedicinal plants for women folk's health care in Pakistan and abroad (Sharma, 2002; Ramana *et al.*, 2005; Shah *et al.*, 2009; Tarafdar, 1983a, 1983b & 1984; Sashikumar & Janardhanan, 2002; Lakshmanan *et al.*, 1990; Siddique *et al.*, 1988; Singh *et al.*, 1996; Sher & Shakespeare, 2000; Balick *et al.*, 2000 and Nargas & Trivedi, 2004; Qureshi *et al.*, 2009).

Study area: Abbottabad district is located in Khyber Pukhtoonkhwa Province of Pakistan. The terrain of the area is both rugged and scenic, and its location at the base of the Himalayas lends it a temperate climate throughout most of the year. It is situated between 33° 50' and 34° 23' North and 73° 35' and 73° 31' East. Abbottabad is bordered by Mansehra district in the North, Muzafarabad and Rawalpindi districts in the East, Haripur and Rawalpindi districts in the South and Haripur district in the West. Neighbouring districts are Mansehra to the North, Rawalpindi to the South, Muzafarabad to the East and Haripur district to the West. It is spread over an area of 1,967 km² (178,401 ha) and is located in predominantly mountainous terrain. The average elevation of peaks in the district ranges from 2,500 m to 2,700 m (the Miranjani peak at 3,313 m is the highest point). These mountains form a part of the lesser Himalayas and dominate the landscape (Pastakia, 2004). It has a population of over 300,000. The rocky ground of Abbottabad is rich in minerals, containing deposits of biotite, granite, limestone, phyllite, schist, slate, soapstone and quartz. District Abbottabad is a unique rich

bigeographic region, holding multifarious floral and faunal wealth. Forests cover 36,394.6 ha, amounting to 21.4% of the district's total area, while official figures show the district's forested area to be slightly higher, at 36,441 ha. Currently, 15,558 ha of reserved forest, 8,225 ha of *guzara* forest and 808 ha of cantonment and location forest are managed by the Gallies Forest Division (Aziz, 1950-60). Subtropical Chir pine forests and moist temperate forests primarily represent the vegetation of study area. In Abbottabad district, the Ayubia National Park, spread over 3,312 ha, which was established in 1984 with the aim of preserving nature and natural processes in a viable representative area of the Gallies forests. Climate of the area is moderate in summer and severe in winter with heavy snowfall on high altitudes. The rainfall is variable from year to year. Abbottabad district lies within the active monsoon zone. Most of the land is rain-fed, with 60% of average precipitation received during the July–August period and the remaining 40% unevenly distributed between September and June. Poverty is prevalent in the district and is assuming menacing proportions with the passage of time. Abbottabad's economy depends heavily on natural resources and subsistence agriculture is a predominant feature of this dependence. Social structure Abbottabad is heavily influenced by tribal affiliations. Most of the district's residents belong to the Abbasi, Dhund, Gujjar, Jadoon, Karlal, Syed and Tanolis tribes. The Karlals, account for around 30% of the district's population and are thought to be the original inhabitants of the area. Interestingly, the natural division of the district into three agro-ecological zones coincides with tribal influences in the area. The primary language spoken here is Hindko (used by 94% of the rural population and 75% of urban residents) with Punjabi, Pashto and Urdu spoken and understood in urban areas. Women draw heavily on forest resources for cooking and heating. They play a major role in fuel collection. In particular, the collection of biomass is the responsibility of women. Restrictions placed on the collection of biomass for sale and household use have increased the hardship of women, who are forced to travel greater distances in search of fuel. Women also depend on pasture and rangeland for grazing animals. Since girls in rural areas are perceived as future wives, mothers and housekeepers, little importance is attached to their formal education. Women have limited access to education, particularly at higher levels. Even at the primary and secondary levels, access is restricted, retention rates are low and facilities, particularly in rural areas, remain abysmal. Women are poorly represented in higher and technical education, and thus have poor employment prospects. The women do not get sufficient medical treatment due to unavailability of the medical facilities. The present communication highlights the scope of ethnomedicinal plants for women's health care in district Abbottabad.

Material and Methods

Field trips (July, August 2009, February, 2010 and December 2011) were undertaken covering different

rural and tribal populated areas of the hills like Ayubia National Park, Thandiani, and Sherwan. Participatory Action Research (PAR) and field visits were planned to elicit information on the uses of various medicinal plants by women. Local herbal informants were selected and interviewed extensively. The women chieftains are accorded a significant role in discussions since they possess more cognizances about the utility of local herbal products in curing various diseases. Information on plants used in women's folk care was gathered by quantitative and qualitative elicitation methods (Martin, 1995). Repeated queries were made to verify the information collected. Based on the investigation of the plants used for remedial purposes against common ailments among the women enumerated in alphabetical order along with their botanical names, local names, families, voucher specimen number, ailment and mode of use. Herbarium numbers given by author has been mentioned in parentheses just after the botanical name of the species. Life-forms of the specimens have also been presented just after the herbarium number (T for tree species for S for shrub H for herbaceous flora and C for climber species). The plant specimens were collected, pressed, dried and identify with the help of available literature (Nasir & Rafiq, 1996; Parker, 1918, Stewart *et al.*, 1972; Polunin & Stantion, 2000). The voucher specimens were deposited in the Herbarium of Botany Department, Govt. Post Graduate College Abbottabad for future reference. Through this field study, the ethical guidelines adopted by the International Society of Ethnobiology were observed.

Results and Discussion

The use of plant or plant parts for various diseases by the rural and tribal women of Abbottabad district is a common practice. Table 1 depicts information on the uses of 67 medicinal plants by the women of the area to cure various diseases. These 67 species belong to 65 genera and 47 families. Highest number of species belong to Family Papilionaceae (5 spp) followed by Lamiaceae (4spp), Caesalpinaceae (3spp), Asteraceae (3spp), Amaranthaceae (2spp), Alliaceae (2spp), Ranunculaceae (2spp), Moraceae (2spp), Cruciferae (2spp), Polygonaceae (2spp) and Verbenaceae (2spp). Rest of the families Mimosaceae, Araceae, Adiantaceae, Malvaceae, Primulaceae, Berberidaceae, Buddlejaceae, Pinaceae, Chnopodiaceae, Cuscutaceae, Cyperaceae, Solanaceae, Rosaceae, Fumariaceae, Geraniaceae, Scrophulariaceae, Caprifoliaceae, Tiliaceae, Juglandaceae, Meliaceae, Cucurbitaceae, Paeoniaceae, Plantaginaceae, Punicaceae, Euphorbiaceae, Oxalidaceae, Portulacaceae, Myrtaceae, Rubiaceae, Bombacaceae, Sapindaceae, Caryophyllaceae, Taxaceae, Zygophyllaceae, Urticaceae and Valerianaceae are represented by one species each (Fig. 1 & Table 1). All these herbal medicines belong to 44 herbaceous ground flora, 7 shrubs, 14 trees and 2 climbers (Fig. 2 & Table 1). Resins, exudates, leaves, shoots, fruits, seeds, bark, tubers and roots are the plants components which are utilized as medicinal ingredients. Plant components are used fresh, dried or both.

Table 1. Medicinal plants used by rural Women of Abbottabad District Northern Pakistan.

Botanical name & Voucher number	Family	Local name	Disease	Mode of use
<i>Acacia modesta</i> Wall. (ATD-GMS-46)T	Mimosaceae	Phulai	Tonic after delivery and for backache	Gum obtained from tree trunk is dried grinded and (2 tsp) mixed with wheat flour. Sugar is added and roasted in desi ghee and given to women after delivery as tonic. Dried, powdered gum (One tsp) is taken with milk as backache tonic
<i>Achyranthes aspera</i> Linn. (ATD-GMS-01)H	Amaranthaceae	Puthkanda	Painful delivery	The decoction (One cup for 5 days) of whole plant is given in painful delivery
<i>Achillea millefolium</i> Linn. (ATD-GMS-02)H	Asteraceae	Biranjisif	Skin rashes	Poultice made from plant is applied to skin rashes
<i>Acorus calamus</i> Linn. (ATD-GMS-40)H	Araceae	Bach	Irregular menstrual cycle	The powdered rhizome (One tsp) is mixed with honey and used as tonic especially by women in irregular menstrual cycle
<i>Adiantum capillus-veneris</i> Linn. (ATD-GMS-03)H	Adiantaceae	Kakpa	Antidandruff	Decoction of fronds is used as antidandruff recipe
<i>Ajuga bracteosa</i> Wall.ex Benth (ATD-GMS-47)H	Lamiaceae	Koori booti	Amenorrhoea	Extract of the plant (One tsp daily for 5 days) is used to cure amenorrhoea
<i>Allium cepa</i> Linn. (ATD-GMS-04)H	Alliaceae	Piaz	Antiemetic	The onion bulb leaf is smelled to avoid vomiting during journey
<i>Allium govanianum</i> Wall. (ATD-GMS-39)H	Alliaceae	Piazi	Cuts and wounds	Paste of leaves is applied to cuts and wounds
<i>Aloe barbadensis</i> Mill. (ATD-GMS-05)H	Liliaceae	Kawaar	Skin beauty	Latex from leaves is applied to skin and also eaten to make the skin soft
<i>Athaea officinalis</i> Linn. (ATD-GMS-06)H	Malvaceae	Gule Khaira	Emollient	Flowers are smashed and used as emollient
<i>Amaranthus spinosus</i> Linn. (ATD-GMS-37)H	Amaranthaceae	Ganiar	Leucorrhoea	Fresh leaves are cooked and eaten to cure leucorrhoea
<i>Androsace rotundifolia</i> Hardw. (ATD-GMS-07)H	Primulaceae	Thandi Jari	Irregular menses	Leaves are crushed and mixed with raw sugar and (One tsp) is taken to correct menstrual flow
<i>Argemone mexicana</i> Linn. (ATD-GMS-08)H	Ppaveraceae	Peeli kindiari	Leucorrhoea	Juice of the leaves (one spoon twice a day for 15 days) is given in leucorrhoea
<i>Bauhinia variegata</i> Linn. (ATD-GMS-48)T	Caesalpinaceae	Kalyar	Obesity	A decoction of root (One cup daily for one month) is reported to prevent obesity
<i>Berberis lycium</i> Linn. (ATD-GMS-38)S	Berberidaceae	Simblu	Oral thrush	Root bark is chewed to cure mouth sores and oral thrush
<i>Buddleja asiatica</i> Lour. (ATD-GMS-44)S	Buddlejaceae	Booi	Abortifacient	Leaves are dried and powdered (2 tsp daily for 10 days) used as abortifacient.
<i>Caesalpinia decapetala</i> (Roxb) Alston. (ATD-GMS-43)S	Caesalpinaceae	Katkaranj	To remove freckles	Paste of seeds is applied to remove freckles from face as cosmetic

Table 1. (Cont'd.).

Botanical name & Voucher number	Family	Local name	Disease	Mode of use
<i>Cathia indica</i> Cambess. (ATD-GMS-09)H	Ranunculaceae	Thutha	Removal of warts	The plant is used fresh or dry externally to make the warts fall off
<i>Cedrus deodara</i> (ATD-GMS-49)T	Pinaceae	Diar	Lactation, skin diseases and complexion	Powdered stem or oil is taken with milk to improve mother's milk and improves complexion. Wood yields dark colored oil locally called "Loe" used for ulcer and skin diseases
<i>Chenopodium ambrosioides</i> Linn. (ATD-GMS-10)H	Chenopodiaceae	Jungli Bhang	Irregular menses and post delivery pain.	The plant is used to reduce painful and profuse menstrual flow. A tea made from the leaves is used (One cup daily for 5 days) to relieve post delivery pains and also to hasten milk flow in nursing mothers
<i>Cuscuta reflexa</i> Roxb. (ATD-GMS-45)C	Cuscutaceae	Akashbail	Eczema and scabies	Whole plant is boiled and decoction is used as bath by eczema and scabies patients
<i>Cyperus rotundus</i> Linn. (ATD-GMS-50)H	Cyperaceae	Muthur	Leucorrhoea, menorrhoea and breast development	Extract of tuber (One tsp daily for 5 days) is used to cure leucorrhoea, menorrhoea and enhances breast development
<i>Dalbergia sissoo</i> Roxb. (ATD-GMS-51)T	Papilionaceae	Tahli	Dandruff and eczema.	50 gm of leaves are boiled in water for 20 minutes. This water is than filtered. Washing hairs with this water is considered useful for dandruff. Oil is extracted from the wood. This is externally applied for eczema disease locally called <i>chambel</i>
<i>Datura stramonium</i> Linn. (ATD-GMS-11)H	Solanaceae	Datura	Falling hair	The fruit juice is used for curing falling hair and dandruff
<i>Fragaria vesca</i> Linn. (ATD-GMS-12)H	Rosaceae	Khatmireh	Bleaching	Juice of leaves and fruit is used to bleach out skin
<i>Ficus glomerata</i> Roxb. (ATD-GMS-62)T	Moraceae	Rhumbal	Menorrhagia	Unripe fruit is employed in menorrhagia
<i>Ficus religiosa</i> Linn. (ATD-GMS-60)T	Moraceae	Peepal	Leucorrhoea	Decoction of bark is employed as vaginal douche in leucorrhoea for 5-6 days
<i>Fumaria indica</i> (Hausskn.) Pugsley (ATD-GMS-13)H	Fumariaceae	Papra	Antiemetic	The plant is dried and grinded into powder and taken with water to control vomiting
<i>Geranium wallichianum</i> D. Don. (ATD-GMS-14)H	Geraniaceae	Rattan jot	Tonic after delivery	Dried root powder (2-3 tsp) is mixed with wheat flour, raw sugar is added and cooked and given after delivery as tonic
<i>Grewia optiva</i> J.R. Drumm ex. Prurret. (ATD-GMS-63)T	Tiliaceae	Dharmn	Smooth delivery	Extraction of bark (2 tsp mixed with a cup of water) is given at the time of delivery for smooth and easy delivery
<i>Isodon rugosus</i> (Wall. ex Benth). (ATD-GMS-15)S	Lamiaceae	Pisomar	To repel insects	Twigs of the plant are placed on beds to get rid of insects and ticks
<i>Juglans regia</i> Linn. (ATD-GMS-16)T	Juglandaceae	Akhrote	Tooth brush	Pieces of the bark are used as "dandasa" for cleaning teeth and to prevent them from decaying
<i>Lactuca scariola</i> Linn. (ATD-GMS-17)H	Asteraceae	Jungli salad	Milk flow	Tea made from leaves (One tea cup daily for 5 days) is given to new mothers to hasten the milk flow

Table 1. (Cont'd.).

Botanical name & Voucher number	Family	Local name	Disease	Mode of use
<i>Lens culinaris</i> Medikus. (ATD-GMS-68)H	Papilionaceae	Masoor	Anaemia	The seeds are boiled and eaten to treat anaemia during pregnancy
<i>Lepidium sativum</i> Linn. (ATD-GMS-18)H	Cruciferae	Halun	Abdominal pain	Seeds are boiled in milk and taken during pregnancy for abdominal pain (Once in a month)
<i>Melita azeedarach</i> Linn. (ATD-GMS-19)T	Meliaceae	Dhareek	Antilice refrigerant, contraceptive	Fruits are boiled and filtered through cloth and filtrate is used to wash hair and kill the lice. For skin diseases, extract of leaves is obtained or leaves are boiled and this water acts as a refrigerant. The oil acts as act as a contraceptive
<i>Mentha piperita</i> Linn. (ATD-GMS-20)H	Lamiaceae	Podina	Antiemetic during pregnancy	Fresh leaves are chewed to prevent vomiting during early pregnancy
<i>Moradica charantia</i> Linn. (ATD-GMS-64)C	Cucurbitaceae	Karela	Abortifacient	The dried roots are grinded and powdered and (One tsp daily for 15 days) used as abortifacient
<i>Paeonia emodi</i> Wal.ex Royle. (ATD-GMS-21)H	Paeoniaceae	Mamekh	Joint pain	Dried roots powder is taken with milk to treat joint pain especially backache
<i>Plantago ovata</i> Forsk. (ATD-GMS-61)H	Plantaginaceae	Aspaghul	Gonorrhoea	Seeds and husk (2 tsp) are soaked on water with sugar and one cup is taken orally for four days to cure gonorrhoea
<i>Polygonatum multiflorum</i> (Linn.) All. (ATD-GMS-22)H	Liliaceae	Adbis	Chopped skin	The paste of rhizome is applied in itching and chopped skin
<i>Polygonum bistorta</i> Linn. (ATD-GMS-23)H	Polygonaceae	Masloom	Excessive menstruation	Dried root powder (One tsp daily for 5 days) is taken to treat excessive menstruation
<i>Punica granatum</i> Linn. (ATD-GMS-52)T	Punicaceae	Daruna	Cooling, refrigerant and breast development	Fresh seeds are eaten as cooling, refrigerant and enhance breast development
<i>Ranunculus muricatus</i> Linn. (ATD-GMS-24)H	Ranunculaceae	Barea	Eczema	The paste of whole plant is applied to skin till recovery for the treatment of eczema locally called "Chambal"
<i>Nasturtium officinalis</i> R.Br. (ATD-GMS-25)H	Cruciferae	Taramira	Induce sterility	Uses Plat is cooked as vegetable and causes temporary sterility
<i>Mallotus philipensis</i> (Lam.) Muell. (ATD-GMS-26)T	Euphorbiaceae	Kambeela	Eczema	The red powder of fruit is mixed with butter and used as ointment to cure eczema
<i>Medicago sativa</i> Linn. (ATD-GMS-67)H	Papilionaceae	Sinji	Menopause	Fresh and dried plant is cooked and eaten (Once in a week) as vegetable and considered to treat problems related to menstruation and menopause
<i>Oxalis corniculata</i> Linn. (ATD-GMS-27)H	Oxalidaceae	Khatqurla	Improve taste of mouth	Fresh leaves are chewed by pregnant women to improve taste of mouth
<i>Portulaca oleracea</i> Linn. (ATD-GMS-41)H	Portulacaceae	Lurank	Gonorrhoea	The herb is cooked and eaten as vegetable to treat gonorrhoea once in a month
<i>Psidium guajava</i> Linn. (ATD-GMS-66)T	Myrtaceae	Amrood	Miscarriage	Extract of leaves (One tsp after five days for five months) is useful for treating miscarriage

Table 1. (Cont'd.).

Botanical name & Voucher number	Family	Local name	Disease	Mode of use
<i>Rubia cordifolia</i> Linn. (ATD-GMS-28)H	Rubiaceae	Manjith	Vaginal inflammation	Plant is boiled and water is used as douche to cure vaginal inflammations once in a week
<i>Rumex nepalensis</i> Spreng. (ATD-GMS-29)H	Polygonaceae	Holla	Constipations	Fresh leaves are cooked and eaten as laxative to cure constipations during pregnancy once in a month
<i>Salmalia malabarica</i> (DC) Schott & Endl. (ATD-GMS-53)T	Bombacaceae	Sambal	Pimples	Powdered form of thorns of stem, mixed with milk is applied to remove the spots of pimples for 15 days
<i>Salvia lanata</i> Roxb. (ATD-GMS-30)H	Lamiaceae	Choti Kalijari	Laceration of toes	The crushed leaves are applied in laceration of toes during rainy season for 15 days
<i>Sapindus mukorossi</i> Gaertn. (ATD-GMS-54)T	Sapindaceae	Raitha	Dandruff	500gm of fruits are boiled in 1000 ml of water for 30 minutes. The water is filtered and allowed to cool. Washing hairs with this water is useful as anti-dandruff
<i>Stellaria media</i> Linn. (ATD-GMS-65)H	Caryophyllaceae	Laloori	Irritated skin	Plant is chiefly used to treat irritated skin, being applied as juice, poultice, ointment or cream for one month
<i>Tagetes erecta</i> Linn. (ATD-GMS-31)H	Asteraceae	Jungli Satbarga	Irregular menstruation	Watery extract of root is (One tsp for 5 days) used in irregular menstruation
<i>Taxus wallichiana</i> Linn. (ATD-GMS-32)T	Taxaceae	Barmi	Induce menstruation and abortifacient	Leaves (10 grams for 10 days) are used to induce menstruation and act as abortifacient also
<i>Tribulus terrestris</i> (ATD-GMS-55)H	Zygophyllaceae	Gokhru	Infertility and lactation	Whole plant is dried and powdered one spoon is taken with milk for infertility and enhances lactation in feeding mothers
<i>Trigonella foenugraecum</i> Linn. (ATD-GMS-42)H	Papilionaceae	Methi	Milk flow and leucorrhoea	The powdered seeds (One tsp daily) before breakfast and to treat leucorrhoea and milk flow
<i>Urtica dioica</i> Linn. (ATD-GMS-33)H	Urticaceae	Bichubuti	Menorrhagia, anemia and breast milk	Decoction of the plant (One tea cup daily for 10 days) is administered in menorrhagia and improves Hb also increases breast milk
<i>Valeriana jatamansi</i> Jones. (ATD-GMS-34)H	Valerianaceae	Mushk bala	Hair tonic	Root extract is used as cosmetic and hair tonic
<i>Verbena officinalis</i> Linn. (ATD-GMS-35)H	Verbenaceae	Berbine	Miscarriage	Extract of fresh plant (One tsp daily for 5-6 days) is used to increase mother's milk and prevent miscarriage
<i>Verbascum thapsus</i> Linn. (ATD-GMS-56)H	Scrophulariaceae	Gidar Tambaku	Emollient	The extract is used in making emollient ointment
<i>Viburnum grandiflorum</i> Wall.ex DC. (ATD-GMS-57)S	Caprifoliaceae	Guch	Uterine sedative	Fruits are uterine sedative and used to treat various uterine disorders
<i>Vitex negundo</i> Linn. (ATD-GMS-58)S	Verbenaceae	Marmani	Grey hair	The oil is applied daily for 15 days in premature greying of hairs
<i>Woodfordia fruticosa</i> Kurz. (ATD-GMS-36)S	Lythraceae	Dhawi	Skin diseases	Paste of flowers is applied to skin as ointment for skin allergies till recovery
<i>Zingiber officinale</i> Linn. (ATD-GMS-59)H	Zingiberaceae	Alachi	Refrigerant and breast development	Decoction of seeds (One cup daily for 10 days) is used to improve the taste of mouth during pregnancy and enhances breast development

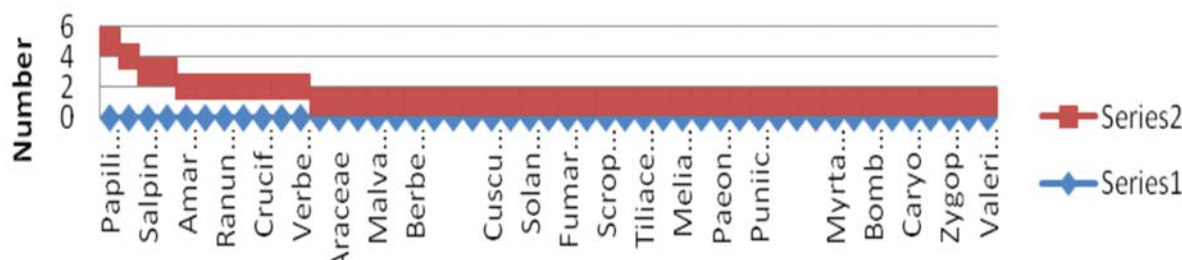


Fig. 1 Family wise distribution.

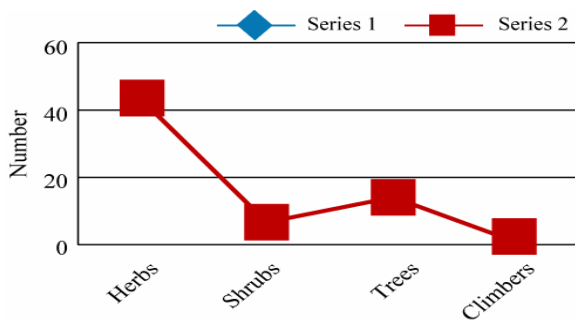


Fig. 2. Habit of Medicinal Plants

The methods of collection of medicinal plants involve the uprooting of useful plants by using a locally designed sharp edged trowel (*Gianti or Kudal*). People were also seen uprooting the plants by hand which in fact a very common practice is. There is an urgent need for the introduction of scientifically designed equipments which could help in proper collection, processing and storage of the medicinal plants. The techniques of drug preparation are unique, simple and traditional. Collected medicinal plants were dried in sun for few days and ground with the help of pestle and mortar. Fresh leaves/shoots are also ground in the mortar. The paste is usually twisted in a piece of clean cotton cloth to extract fresh juice. Depending on the ailment and knowledge; some of the plant parts are mixed with wheat flour, raw sugar, honey, and milk or simply taken with water. The various modes of administration include plant part in edible form either by powdering or frying it and mixing with other ingredients or with food. These also include poultices, ointment, decoctions, as tooth brush, extracts, wet bath (bath in water in which the drug is mixed), complex treatment with one or more plants and oils. Women followed by children are the main collectors of medicinal plants. This agrees with the studies of Khan (1998) who reported that women are the main collector of medicinal plant, in the northern areas of Pakistan. Women also collect fodder and fuel wood from the forests. It was observed that in every village of the district, there are individual ladies who are regarded as especially knowledgeable or skilled in the treatment of women's diseases. Some time their reputation extends to their own village while others draw clients from great distances. The medicinal plants are used most frequent ailments include irregular menstrual cycle, amenorrhoea, skin allergies, leucorrhoea, as abortifacient, post delivery pain, dandruff, eczema, tonic after delivery and for breast milk

secretion plant species. Out of 67 plant species, 15 plants were used to cure two or more diseases. Skin diseases like scabies and eczema were cured by external application of paste of leaves or other parts. For the treatment of the common ailments 40-90% respondents depend on herbal treatment. In contrast to younger generation, the elder people have more inclination towards herbal treatment. This may be due to the fact that elder people believe that traditional medicines to be more efficacious and have less side effects. Highest number of plants (17 spp) including *Achillea millefolium*, *Aloe barbadensis*, *Allium gowanianum*, *Althea officinalis*, *Cedrus deodara*, *Caesalpinia decapetala*, *Caltha indica*, *Cuscuta reflexa*, *Dalbergia sissoo*, *Fragaria vesca*, *Polygonatum multiflorum*, *Ranunculus muricatus*, *Mallotus philipensis*, *Salmalia malabarica*, *Stellaria media*, *Verbascum thapsus* and *Woodfordia fruticosa* are used to treat different diseases of skin especially scabies and eczema. The women of the area live very hard and laborious life and suffer due to many skin diseases. For the treatment of post delivery pain and tonic after delivery 5 plant species, *Acacia modesta*, *Achyranthes aspera*, *Chenopodium ambrosoides*, *Geranium wallichianum* and *Grewia optiva* are commonly used. There are (7 spp), *Adiantum capillus-veneris*, *Dalbergia sissoo*, *Datura stramonium*, *Melia azedarach*, *Sapindus mukorossi*, *Valeriana jatamansi* and *Vitex negundo* are used to cure hair fall, antidandruff an antilice. Highest number of plants(16 spp), *Acorus calamus*, *Ajuga bracteosa*, *Amaranthus spinosus*, *Androsace rotundifolia*, *Argemone mexicana*, *Chenopodium ambrosoides*, *Cyperus rotundus*, *Ficus gloumerata*, *Ficus religiosa*, *Plantago ovata*, *Polygonum bistorta*, *Medicago sativa*, *Portulaca oleracea*, *Tagetes erecta*, *Taxus wallichiana* and *Trigonella foenum-graeceum* are used to treat menstrual disorders and other gynecological disorders like leucorrhoea, amenorrhoea, menopause, gonorrhoea etc. Obesity is a common problem of women and *Bauhinia variegata* is used to control obesity. Women are familiar with the population planning and (5 spp), *Buddleja asiatica*, *Melia azedarach*, *Momordica charantia*; *Nasturtium officinalis* and *Taxus wallichiana* are used as abortifacient and induce menstruation. Vomiting and bad mouth tastes are common symptoms during pregnancy. There are (3 spp) used as antiemetic. During the studies (5 spp) were found to be used for milk increase and flow and (2 spp) are used for breast development. Laceration of toes is common and (1sp) *Salvia lanata* is used to cure laceration of toes. For the treatment of backache and abdominal pain (3spp) are

used commonly. Study revealed that (2 spp) are used to treat anaemia. One plant *Juglans regia* species is used to clean teeth and colour lips as cosmetic.

The area is under pressure because of illegal settlements, fires, and extensive tree cuttings, urban encroachment and pollution (Qureshi *et al.*, 2008). Conservation of biological diversity is one of the national and international needs to save our natural wealth. A decline in the total area of natural vegetation as a source of supply for medicinal plants has occurred partly as a result of removal of natural forests for agricultural land and partly due to commercial over-exploitation of the medicinal plants themselves.

Medicinal plants are collected for domestic use and also sold by poor people to earn money. Deforestation for fuel wood, fodder, timber and unlawful smuggling of timber wood has resulted in desertification. Conservation of medicinal is very important, as most of these plants have been reduced to large extent and even some has disappeared from the area. With the growing interest in medicinal plants, both in the country and abroad, it is necessary to develop a long-term strategy to conserve and sustainably harvest these plant products (Sher & Hussain, 2009). Therefore, immediate measures should be taken for *in situ* and *ex situ* conservation of these species in the district. The task should be undertaken not only by government but also by the non-governmental organizations (NGOs). More forest areas should be protected by declaring them as sanctuaries and reserve forests. This will promote regeneration of medicinal plants in their natural habitats. Medicinal plant garden and herbal gardens should be established in suitable places in the district for *ex situ* conservation of medicinal plants. Degraded area of the forest, community land and privately owned individual land needs to be rehabilitated using multifarious species under *ex situ* programs. The practice of plantation and medicinal plant cultivation should be promoted in community lands and their agricultural fields. Cultivation as an alternative to over-exploitation of scarce traditional medicinal plants is the need of the hour (Mukherjee, 2004). Keeping in view the medicinal uses of the plants are very confidently claimed by the rural people, detailed pharmacological and clinical trials are needed to explore the active constituents and their role in modern medicine.

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