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AN ETHNOBOTANICAL STUDY ON THE USAGE OF WILD MEDICINAL HERBS FROM MALANA HILLS, PARACHINAR KURRAM VALLEY

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ABSTRACT

An ethnobotanical survey was carried out in the territory of lower mountain in Malana of Parachinar which is characterized by great plant diversity. In total 41 wild species from 28 families and a few plant preparations for use in human therapy were recorded. The most commonly used plants for medicinal purposes in variety of ailements were *Mentha longifolia*, *Seripedium kurramensis, Thymus serpyllum, Artemisia absynthium and Berberis lyceum*.. The most frequently reported medicinal uses were for treating gastrointestinal ailments(37.5%), skin and external wound (25%), followed by urinogenital, respiratory and cardiovascular problems (15%, 7.5% and 5%) respectively. Plants with un certain uses were *Tanecetum artemesoids* and *Urtica dioca* . While plants with interesting but lesser known properties were *Rumex chalepensis* (used against *Urtica dioca* stings). In addition 4 species were used as veterinary medicine.

Key words: Ethno botanical, gastrointestinal ailments, cardiovascular problems and veterinary medicine

INTRODUCTION

Man will always be dependent on plants for various obvious needs including food, clothing, shelter, timber, fuel, fodder, medicines, exchange of O_2 and CO_2, biogeochemical cycle. The ethno-pharmacological study not only envisages the possibility of identifying new herbal drugs but also brings on record the hidden knowledge confined to traditional society all over the world (Leporatti & Paresi, 1990; Bhattari, 1992; Padhye *et al.*, 1992; Yang & Walter, 1992; Omino & Kokwaro, 1993; Gils & Cox, 1994; Bhandary *et al.* 1997; Verma *et al*. 1998). Some studies made in various parts of N.W.F.P include those of Hussain *et al.* (1995), Badshah et al. (1996), Shinwari *et al.* (2003 and 2006) and Hussain *et al.* (2006).

The aim of the present study was to gather information on traditional knowledge on medicinal plants used by local communities of Parachinar (Malana) and to determine the level of knowledge within different population groups based on age and education. It will enhance our understanding of traditional knowledge. The area is under heavy stress due to deforestation, erosion and grazing. Therefore there is a dire need for conservation of the plants resources in this remote area.

MATERIALS AND METHODS

After a general survey and preliminary discussion with the elders of the area, Malana area was selected for this study. In this area interviews were conducted randomly with individuals belonging to different age group.

A pre-prepared questionnaire was used for information collection. Each respondent was asked to list the medicinal plants of the area known to him, rank plants in order of merit according to their local medicinal importance by giving reasons. The local name of plant (s), disease treated and preparation and administration of the drug and name of recipe were recorded. The plants were initially identified through local knowledgeable elders.

Taxonomic identification of the plants was confirmed in the Herbarium of the Department of Botany, University of Peshawar and National Herbarium, Islamabad. The plant nomenclature used is the one of Flora of Pakistan (Nasir & Ali, 1971-1996; Ali & Qaiser, 1996-2004). The information reported here is purely based on the local knowledge.

RESULTS

The results of the survey are presented in Table 1, in which the plants are arranged in alphabetical order. For each species the following ethno botanical and pharmacognostic elements are provided. Botanical taxa, local name, part used, preparation and usage.

DISCUSSION

The use of medicinal plants is still socially acceptable and is dependable health care system in the traditional societies. The study revealed that the tribals of Malana parachinar used 41 species of plants for curing various diseases. It was observed that younger population of the area had poor knowledge of the flora and their traditional medicinal uses as compared to elderly age groups. Caniago & Siebert (1998) reported that people older than 25 years of age and elder females of Kalimanta, Indonesia, were more knowledgeable about medicinal plants.Hussain *et al* (2006) reported that most of the respondent in waziristan were above 30 years of age. Our findings also show that almost all of the respondents were above 30 years of age. There was lack of health and communication facilities in the past but presently there are a lot of hospitals / basic health units serving the community and this has increased the use of modern allopathic medicines. The younger population is either less aware about the traditional medicinal system or need quick remedy. The findings agree with those of Yazicoglu (1996) who reported 88 medicinal plants used in Turkey for the treatment of bronchitis, rheumatism, and gastrointestinal disorders and for healing wound. Arshad & Akram (1999) reported that *Mentha longifolia, Withania coagulans* and *Berberis lycium* are used for treating diarrhea, dysentery, constipation and pain etc. Alam (1992) reported that many plants were used for curing constipation, diarrhea, and other intestinal disorders by the Marma tribe of Bangladesh. The present study also reported almost similar uses of plants in the investigated areas. The respondents mentioned five plants as the most important medicinal plants of the area. They included plants used for treating gastrointestinal, urininogenetal, skin injures, diarrhea, dysentery, cough, asthma and cardiovascular problems, etc as the major groups of diseases. The local preparations/recipe was generally named either after diseases cured or after plant used. In other parts of the world too, the organoleptic properties such as bitter, sweet, aromatic and sour were used to recognize plants (Weimann & Heiurich, 1998). *Mentha longifolia* with various medicinal was ranked as the most important plant of the area by 91% of the respondents. *Morchella esculenta* was the only medicinal fungus used as aphrodisiac.

The criteria used for ranking the importance of medicinal plants by locals included curing intestinal problems (stomachache, dysentery, and diarrhea) cough, asthma, antispasmodic, antipyretic and easy free availability in the area. Many other studies have also reported similar findings (Bhattari, 1992; Davis *et al.*, 1995; Yazicoglu, 1996). *Seripedium kurramensis Artemisia absynthium* were the only medicinal plants that were sold by the local collectors in past but now not. The selling prices were very low at collector's level, which increased as the material moved to outside market. The trade of medicinal plants was negligible as medicinal plants are not considered as commercial resource nowadays and the area/ land is now used for crops and vegetable cultivation.

The area is basically a rangeland where protection to medicinal plants is not affordable because of heavy deforestation and over grazing (Hussian & Badshah, 1998). Plants identified as medicinal were frequently used as timber, fire wood or fodder species. With the improvement of socio-economic status and more facilities, the dependence on traditional medicinal plant health care system has declined and has shifted in favour of modern health care system. There is need to conserve the medicinal resources and knowledge, which is declining fast.

Table 1. List of the plants with local name, Family and their possible uses.

BOTANICAL NAME	LOCAL NAME	FAMILY	USES
Artemisia absynthium L.	Masthiara	Asteraceae	Used internally for worm infection ; Ariel part s rubbed into the animal skin for repulsion of flies / mosquitoes etc.
Artemisia scoperia waldst. &Kit	Dordong	Asteraceae	Joint extraction with *Plantago lanceolata and* another plant locally called darshol (not known) is given to patient suffering from hepatitis. (Akbar Hussain local Hakim)
Artemisia vulgaris L.	Tharkha	Asteraceae	Aromatic tonic herb; digestive stimulant; internally for body strength; appetizer.
Asparagus officinalis Miller.	Asparagus	Liliaceae	Young stem used as vegetable, also used for constipation and stomach disorders.
Berberis lyceum Royle.	Zedawaney	Berberidaceae	Fruits are effective in renal problems; bark is used in chest pain and against common cough.
Berginea ciliate (Haw.)Sternb.	Kamargul	Saxifragaceae	Powdered rhizome is used in kidney stone; dysentery and others stomach pains.
Cedrus deodara	Lamanz	Pinaceae	Oleoresin is applied externally as pain killer on

(Rox.Ex.lLamb) G.Don.			wounds ; also used in skin allergy of some animals like sheep and goats etc.
Chenopodium album L.	Sarmay	Chenopodiaceae	Roots and braches are used in jaundice; urinary disorders, laxative and as sex tonic.
Chrozophora tinctoria (L.)Juss.		Euphorbiaceae	Smokes of the plants are used in home as insecticide; also used for eradicating rat and flies.
Cichorium intybus L.	Shingulay	Asteraceae	Infusions of the flowering tops and branches are a popular remedy for malarial fever and in asthma.
Colchicum luteum Baker.	Jungle piazi	Colchicaceae	Dried corm mixed with milk is commonly used as aphrodisiac
Daphne oleids Schreb.	Laghunai	Thymelaceae	Germicidal; expectorant, laxative for rheumatism and skin ailments.
Datura stromonium L.	Tura	Solanaceae	Seed in small amount is crushed and taken as brain tonic.
Ephedra intermedia Schrenk.	Mova	Ephedraceae	Ash is especially valued in snuff making; extract in boiling water is taken for asthma; also used in dying leather and hides.
Equisetum arvense L.	Bandokay	Equisetaceae	An astringent; used internally for urinary tract inflammation.
Euphorbia willichi Hk.f.	Pichkhutay	Euphorbiaceae	Causes skin allergy; small amount is added in water and sugar is taken against constipation as a very effective remedy.
Foeniculum vulgare Miller.	Khugalana	Apiaceae	Fruit and laves are used in stomach ach; gas troubles and as sex stimulant.
Fragaria vesica Lidl .ex. Hk	Jungle strawberry	Rosaceae	Diuretic and laxative . The poultice of leaves is applied on to the sore throat.
Fumeria indica (Hausskn.)HN		Fumeriaceae	Young shoot and leaf is used as blood purifier.
*Hedera helixa acut.non.*L	Parwathay	Araliaceae	Leaf poultice applied on external wounds; leaf juice is used for stomach ach/ ulcer.
Hedra nepalensis K . Koch.	Partway	Araliaceae	Fresh laves and mature berries are used in diabetes.
Juglans regia L.	wooghaz	Juglandaceae	Leaves and rind infusion is taken internally as digestive tonic and for constipation. Also used as brain tonic. Root and stem bark is used for cleaning teeth and as lips cosmetics.
Malva sylvestris L.	Tikalay	Malvaceae	Expectorant; reduce inflammation. Leave used for asthma; rhizome is used as sex stimulant.
Mentha longifolia (L.) Huds.	Velani	Lamiaceae	Carminative; taken for gastrointestinal ailments.
Morchella esculenta Fr.	Kadkichu	Helvallaceae	Used as sex stimulant for men; tonic for stomach and heart.
Olea feroginea Royle.	Khavna	Oleaceae	Leaves applied on foot rot; extraction of freshleaf is used for washing cow feet. Also used as superstitious.
Plantago lanceolata L.		Plantaginaceae	Antibacterial properties; fresh leaves used against sore throat; seeds and husk used internally for diahorrea and stomach ach.
Plantago major Aitch.	Thukme malanga	Plantaginaceae	Crushed leaves and stem used externally as poultice on wound and swelling areas; internally taken with milk for stomach disorder ness.
Polygonum audratum(Mill.)Druce	Obo boti	Polygonaceae	Used internally for diarrhea; externally for skin complaints.
Rumex challapensis Mill.	Zanda	Polygonacea	Laxative effect; also used in diarrhea; the local nomadic people rubb the leaves of *Rumex* on the skin

			touched with irritant.
Seriphidium kurramensis Y.R.Ling	Tharkha	Asteraceae	Anthelmentic; leaves and branches extraction in boiled water is given as ant malaria recipe.
Solanum nigrum L.	Khadsobai	Solanaceae	Used locally for stomach ulcer; fruit edible and juice applied to sore organs.
Tanacetum artemesoids Sch.Bip.ex. Hk.	Zawel	Lamiaceae	Leaves, branches and fruit are made into powder used for chest pain and hepatitis.
Teucrium stocksinaum Boiss.	Kostori	Lamiaceae	Leaf juice in water is given to cow for quick digestion against over eating of Trifolium sp.
Thymus serphyllum L.	Maveray	Lamiaceae	Thyme laves mixed with Viola in sugar is used to cure flu; stomach ach and common cough problems.
Tulipa stellata HK.f.	Tulip	Liliaceae	Bulb in powdered form is given to children anthelmintic for round and tape worms.
Urtica dioca L.	Sezonkay	Urticaceae	Tonic herb used to control bleeding; leave in immature conditions are used to prepare vegetable dish for sugar patients.
Valeriana jaatmansi Jones.	Makhkak	Valerinaceae	Rhizome used as sex tonic and as an astringent.
Verbascum thapsus L.	khrakhug	Scropholariaceae	Leaf poultice is used to swollen wound; powdered inflorescence mixed with *Brassica* oil, is used in ear aches.
Viola falconeri Hut.	Wada parwaty	Violaceae	Leaves used as laxative and diuretic; rhizome used against eye sweating and pain.
Viscum album L.	Zeray	Loranthaceae	Leaves sedative; the whole plant is used to strengthen the humps of camels.

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