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RESEARCH ARTICLE

AN ETHNOBOTANICAL SURVEY OF MEDICINAL PLANTS OF GULMURG, KASHMIR (INDIA)

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ABSTRACT

An ethnobotanical survey was carried out in the region of Gulmarg, Kashmir. A total of 27 ethnomedical plant species belonging to 26 genera and 18 families were reported with the help of some standardized questionnaires among the tribal people. The indigenous knowledge of local people about the native plants was collected through questionnaires and personal interviews during field trips. The study shows the use of plant species for traditional folk medicines and high degree of ethnobotanical novelty. Asteraceae was represented by 5 species, Scrophulariaceae by 3, Lamiaceae, Polygonaceae and Solanaceae by 2 and each of Araceae, Berberidaceae, Caprifoliaceae, Dioscoriaceae, Euphobiaceae, Geraniaceae, Hypericaceae, Malvaceae, Phytolaceae, Podophyllaceae, Rosaceae, Valerianaceae and Violaceae were represented by one species.

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INTRODUCTION

Medicinal plants or herbal medicine is a major component of traditional medicine. Traditional medicine is a set of empirical practices embedded in the knowledge of a social group which generally transmitted from generation to generation orally with the intent to solve health problems (Lingaiah and Nagaraja, 2013). It is a good alternative to western medicine and is strongly linked to religious beliefs and practices of indigenous cultures (Husain *et al.*, 2008, Lawal *et al.*, 2010). Agricultural and Natural resource development defined the Medicinal Plants as "Plants that are recognized by people to have reliable and effective medicinal values, are commonly used in treating and preventing specific ailments and diseases, and play an essential role in health care." Today demand of medicinal plants is increasing on the country level because of good economic output and the fact that the herbal medicine are very safe than the synthetic allopathic drugs in various ailments (Durmuşkahya and Ozturk, 2013, Nyamanga *et al.*, 2008, Motlhanka *et al.*, 2006). WHO estimated that four billion people, 80 % of the world population use herbal medicines for some aspects of primary health care need (WHO, 1977). Global trade of medicinal plants products is growing at the rate of 12.5% per annum. In India, the rich plant diversity of Himalaya (due to the favorable physiographic and climatic conditions); consist over 8000 species of angiosperms, 44 species of gymnosperm, 600 species of pteridophytes, 1734 species of Bryophytes, 1159 species of lichens etc. the Indian

Himalayan region contributes over 1748 (32.2% of India) plant species. The medicinal plants can be possible bridge between sustainable economy, affordable health care and conservation of vital biodiversity. But during past 2-3 decades due to the unscientific methods of harvesting, storage, transportation and lack of proper documentation the existence of some medicinal plants is in danger. Conservation Biologists warn that 25% of medicinal plant species could be extinct during the next 20-30 yrs.

MATERIALS AND METHODS

The study was undertaken in Gulmarg, Kashmir from January 2010 to December 2010 which is located 52 km from Srinagar. It is located at 34.05°N and 74.38°E. It is known as "Meadow of Flowers". A periodic survey was conducted in areas inhabited by the people in the region. The field work was divided into two parts

- Plants collection from alpine stream banks, meadows, cultivated, fields etc.
- Collection of ethnobotanical information on final day of each periodic surveys followed by group discussion with knowledgeable old persons, Hakims, nomads etc. to check the veracity of information gathered during field surveys.

The personal interview and questionnaire involved the following routine

- Name of plant part used
- Purpose /disease/ointment for ethnic use
- Methods of preparation and use

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- Efficacy /precautions
- Extend of use /degree of popularity
- Availability /economy of the drug

RESULTS AND DISCUSSION

In the present study, 27 ethnomedical plant species belonging to 26 genera and 18 families were reported with the help personal interview and some standardize questionnaires among the tribal people (Table 1).

Pains, Paralysis, Ring Worm, Sugar, Scorpion Bite, Skin Allergy, Stomach Pain, Skin Diseases, STD's, Snake Bite,

Tooth ache, Wound healing are other common diseases and health complaints which are cured by using of various plants found in Gulmurg region of Kashmir. Different plant parts viz. bark, roots, leaves, fruits, flowers, stem, seeds and other substances, such as sugar candy, curd, honey, hair oil, milk and turmeric powder, were found to used in various preparations.

Table 1. Description of medicinal properties of plants used by tribal people in Gulmurg, Kashmir

S. No.	Botanical Name	Family	Medicinal Use
1	<i>Achilleia millefolium</i> L.	Astreascea	Diaphoretic, stimulants and tonic useful in colds obstructed perspiration and commencement of fevers
2	<i>Arseama jacquemonica</i>	Araceae	Used in respiratory disturbance, tubers as insecticides
3	<i>Artimisa absinthium</i> L.	Asteraceae	Used in vermifuge tonic in intermittent fevers, sources of santonin drug with curd as antidandruff, leaf paste for healing wounds, leaf decoction applied externally to relieve pain in joints
4	<i>Atropa acuminata</i> L.	Solanaceae	Narcotic sedative diuretic mydriatic root being poisonous applied externally on neuralgia inflammation and rheumatism
5	<i>Berberis lyceum</i> Royle.	Berberidaceae	Used in treatments of ophthalmia and fever, mild laxative tonic in stomach disorders and also for piles, leaf paste applied extrenaly to relieve pain in throat, berries are coagulant
6	<i>Digitalis lantana</i> L.	Scrophulariaceae	Used as cardiac stimulant and tonic effective in congestive heart failure
7	<i>Digitalis purpurea</i> L.	Scrophulariaceae	Stimulant tonic
8	<i>Dioscorea deltoidea</i>	Dioscoreaceae	Yields cortisone steroid hormone which is used in rhumatic disease and ophthalmic disorders
9	<i>Euphorbia wallichiana</i> Boiss	Euphobiaceae	Toxic and antidermatotic, cure leprosy
10	<i>Fragaria nivicola</i> L.	Rosaceae	Fruits are aromatic astringent and diuretic, leaves used against diarroea, rhizome used as a substitute for tea
11	<i>Gernium wallichianum</i> Siv.	Geraniaceae	Used to cure toothache, applied externally to eyes
12	<i>Hyoscyamos niger</i> L.	Solanaceae	Seed paste applied locally on pains, young leaves and fruit tops are the source of drug used as sedative, narcotic and also in the treatment of whooping cough and asthma
13	<i>Hypericum perforatum</i> L.	Hypericeae	Astringent, detersive, resolutive, anthelminttie, emmenagogue, diuretic, used for wounds and bruises
14	<i>Inula reemna</i>	Astraceae	Roots used as expotant and as resolutive and tonic in vetrnary medicines and for stomach, seeds as aphrodisiac
15	<i>Malva sylvestris</i> L.	Malvaceae	Decoction of petioles used as laxative, leaves as vegetable
16	<i>Menthe longifolia</i> L.	Lamiaceae	Infusion of leaves used in rheumatic pains and indigestion
17	<i>Phytolacea acinosa</i> Roxb.	Phytolaccaceae	Fruits eaten as blood purifier, Leaves sometimes used as vegetable
18	<i>Pleuropteropyrum alpinum</i> Koidz	Polygonaceae	Root used as astringent, leaves used as vegetable
19	<i>Podophyllum hexandrum</i> Royale.	Podophyllaceae	Rhizome and roots-hepatic stimulant, purgative
20	<i>Rheum austral</i> D. Don.	Polygonaceae	Roots and rhizomes-astringent and tonic, leaves used as vegetables, root paste used in boils and wounds
21	<i>Salvia dumetorum</i> Andrz.	Lamiaceae	Roots given in cold and coughs; seeds emetic and given for hemorrhoids, in dysentery and colic, applied to boils. Leaves used for guinea worm
22	<i>Sambucus wightianus</i> Wall.	Caprifoliaceae	poisonous herb, used as purgative
23	<i>Saussera costus</i> (Falc) Lipsch.	Asteraceae	Root used as spasmodic in asthma, cough and cholera, in skin disease and rheumatism, roots powder mixed with oil is rubbed on joints to remove pain
24	<i>Taraxacum officinale</i> Wiggs.	Asteraceae	Decoction of leaves taken to relieve body aches and pain in joints after delivery; root extraction given orally in chronic fevers
25	<i>Valeriana jatamansi</i> Wall.	Valverianceae	Roots aromatic, bitter, used as tonic, stimulant, antispasmodic; in treatment of epilepsy, hysteria, palpitation of heart; useful in instestinal colic
26	<i>Verbascum Thapsus</i> L.	Scrophulariaceae	Root extraction given orally to cows to hasten the delivery, applied to cure burns
27	<i>Viola oderata</i> L.	Violaceae	Plants antipyretic, diaphoretic, flowers are emollient, demulcent, used in biliousness and lung trouble, as remedy and infantile disorder, a warm paste with ghee applied on throat to remove throat ache

On the basis of survey the plants were found to be used to cure various severe diseases like jaundice, cancer, etc. by using extracts, pastes, juices, powders, etc. Abortion, Anti inflammations, Asthma, Arthritis, Blood Pressure, Blood Bleeding, Cough, Diabetes, Dandruff, Diarrhea, Fertility improvement of male, Fever, Filari, Hepatitis, Jaundice, Kidney disease, Ladies White Discharges, Muscular Pains,

During the survey Asteraceae was found to be dominated and represented by 5 plant species followed by Scrophulariaceae by 3, Lamiaceae, Polygonaceae and Solanaceae by 2 and each of Araceae, Berbidaceae, Caprifoliaceae, Dioscoriaceae, Euphobiaceae, Geraniaceae, Hypericeae, Malvaceae,

Phytolaceae, Podophyphyllaceae, Rosaceae, Valarianaceae and Violaceae were represented by one species.

Conclusion

The present investigation states that medicinal plants still play a vital role in the primary health care of the people. The information gathered during the survey is useful for further researchers in the field of ethnomedical botany, taxonomy and pharmacology. This study shows the relationship between plants and people in the context of traditional medical system. The use of ethno medical information could be the step towards drug discovery. Due to lack of interest among the younger generation of tribal's as well as their tendency to migrate to cities for lucrative jobs, we face the possibility of losing this wealth of knowledge in the near future.

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