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Data of Ethnomedicinal Plants in Wazirabad, District Gujranwala, Punjab, Pakistan

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Abstract

Plants are vast natural sources significant organic and inorganic ethnomedicinal metabolic components that are free from side effects and are being used as probes and remedious agents since ancient times for local remedies. This paper documents the randomly sampled data of roots, leaves, seeds as well as whole plants of 31 ethnomedicinal plants of almost 21 families majorly *Apiaceae, Fabaceae*, *Moraceae, Solanaceae* and *Rhamnaceae* family used by local medicine men by conducting their unstructured interviews including open ended questions relevant to flora of Wazirabad, District Gujranwala, Punjab, Pakistan. This random sampling of different families of plants in particular climatic conditions can attract the phytochemists towards this area for opening scientific mysteries of this flora. The people of the Wazirabad have also been interviewed regarding effectiveness of remedious properties of these plants that have been using them from long time which revealed their prolonged dependence upon these local plants for their prime health problems. The confidence on medicine based over these plants is associated with their traditional beliefs.

Keywords: Ethnomedicinal; Metabolic; Medicine men; Phytochemists; Flora

Introduction

The region selected for the present study is in the northern Punjab province of Pakistan, Wazirabad district Gujranwala that is just in the east of the Chenab River. The Chenab River is spanned opposite to Wazirabad by the Alexandra railway bridge. It is located about 108 km (or 174 km) south-east of Islamabad, that is a capital town of the country. Detailed location is shown in in the map Figure 1.

The world discipline is situated at 31.45 latitude and 74.12 longitudes and at elevation of 235 meters above sea level. Climate of Wazirabad's is a desert one because there is virtually no rainfall during the year, in Wazirabad. Annually recorded precipitation fall is about 105 mm that is greatest in July with an average of 22 mm and the lowest in October with an average of 2 mm. Difference of precipitation between the driest and wettest months is recorded as 20 mm. The average recorded annual temperature is 27.1°C that rises up to maximum average temperature of 36.1°C in hottest month of June in a year, and falls around 15.2°C in January. The variation in temperatures throughout the year is 20.9°C.

Under sub-humid climate Wazirabad and Pindorian series are formed in these sediments [1]. This thick deposit extends to more than 100 meter depth and forms the unconfined aquifer of the Indus Plain [2].

Wazirabad city is at the border of district Silakot and Gujranwala and known as city of cutlery and surgical instruments. The origin of Wazirabad cutlery industry can be traced back to the invasion of India by Alexander the Great.

Wazirabad was came into being later in 1636 upon construction of first ever residential building of the city namely Musaman Burj or Saman Burj on the bank of Palkhu Nala by a minister of Mughal Emperor Shah Jehan named Hakim Ilm-ud-din, however evidences of settling are also found in 1542 but actually the reign of another. Major dominating families of plants are *Apiaceae, Poaceae, Fabaceae, Moraceae and Solanaceae* here. *Apiaceae* family is family of flowering plants consisting of 434 genera including 3780 species [3]. It potential source of natural agrochemicals as well as their biological activities such as radical scavenging, diuretic, gastrointestinal, anti-obesity, anti-tumor, antimicrobial, anti-inflammatory and analgesic properties [4]. *Apiaceae* extracts contains polyphenolic compounds such as flavonoids, tannins, and phenolic acids [5]. Phenolic compounds can reduce the causes and effects of skin aging, skin diseases and damage such as wounds and burns [6]. In order to validate the ethno-medicinal claims of plants of *Apiaceae* family many experimental and biological investigations have been made. Chemical composition and the biological activities of essential oils and different extracts of some *Apiaceae* species, illustrates their potential for the development of pharmaceutical, cosmetic products and other industrial uses also [7].

Moraceae, the mulberry family of the rose order (Rosales), with about 37 genera and some 1,100 species of deciduous or evergreen trees and shrubs, distributed mostly in tropical and subtropical regions. Plants of the family contain a milky latex and have alternate or opposite leaves and small, petal less male or female flowers. The fruits of many species are multiple because fruits from different flowers become joined together [8].

The *Fabaceae* is the most common family consisting of approximately 730 genera and 19.400 species [9] found in tropical rainforests and in dry forests [10]. The *Fabaceae* or *Leguminosae* commonly known as the legume, pea, or bean family, are a large and economically important family of flowering plants. It includes trees, shrubs and herbaceous plants perennials or annuals, which are easily recognized by their fruits (legume) and their compound, stipulated leaves. The group is widely distributed and is the third-largest land plant family in terms of number of species, behind only the *Orchidaceae* and *Asteraceae*, with 730 genera and over 19,400 species [11-16].

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Figure 1: Map of Wazirabad Pakistan.

Material and Methods

Present survey has been conducted during month of April 2018. During this course of ethno botanical survey random sampling of several local medicine men with major contribution of Hakeem Shakil ur Rehman and Hakeem Muhammad Bashir, the well-known medicine men of the area have been interviewed unstructurally with open ended questions for developing a detailed profile of traditional uses of ethnomedicinal plants species from the test areas. The collected plants numbered properly and identified by consulting literature.

Detailed profile was collected by field work by collecting views of people getting treatment from both these medicine men. Different categories of people including family heads, Charvahas, Gujars, hakims, old experienced and knowledgeable informants were also interviewed repeatedly for sketching the better image of local beliefs, habits and uses of plant.

The Traditional information of 31 plants species are tabulated in terms of their local or primitive names mentioned by local medicine men. Traditional names reported by these individuals were investigated for their English names from search engine named Google Urdu and were identified with given facts and figures in literature. Botanical names were anticipated by consulting experts of Botany available in locality of university as well as from data available in different types of literatures and reviews. Applications of available ethnomedicinal herbarium have been reported by respective spokes of correspondents regarding the use of medicinal plants by the local peoples.

Results and Discussion

Reported data of this ethnomedicinal study of 31 plants of 21 families among which 15 are used in treatments of different types of stomach disorders, 4 are considered analgesic, 4 in case of different types of ulcers, 6 in various types of cardiovascular issues as well as different diseases like cancer, Insomnia and diabetes. This result has been drawn by reports of significant local medicine men as well as patients availing the expertise of these people. Almost all parts of these enlisted plants in Table 1 are used for local remedies but flowes and fruits are found to be the most useful in this regard. Out of 31 plants 36% plants have significant flowers and fruits in remedial treatment, and 16% use stems as well as 16% use whole plants, 13% use seeds, 10% use leaves, and 6% use roots according to Figure 2.

Apiaceae, Fabaceae, *Moraceae, Solanaceae* and *Rhamnaceae* families are found the abundant families of the area with considerable % ages. Seeds of family *Apiaceae* are reported often effective in diarrhoea, fever, menstrual pains, stomach disorders and obesity, roots for breast enlargement and cancer treatment and stem for Insomnia and anti-diabetic. Literature supports some of views about medical significance of these plants too [4]. All the major ethnomedicinal families of Wazirabad, District Gujranwala, Punjab, Pakistan are shown in Figure 3.

Modern work also supports work of this family for anti-tumor, antimicrobial, anti-inflammatory, analgesic, radical scavenging, diuretic, gastrointestinal and anti-obesity issues. Fruits and flowers of Fabaceae family is found applicable in cases of loss of viscosity of semen, regulation of blood sugar, diarrhoea, control of hair fall, dental disorders, ulcers, chest infections and digestion problems [17]. Seeds, root and fruits of *Apiaceae* are used in menstrual pains, diarrhoea, fever, insomnia, diabetes, breast enlargement, cancer treatment, stomach disorders and cough.

According to Table 1 Solanaceae family is found useful for mouth ulcer, urinary tract infections and liver complains [18,19]. Ethnomedicinal plants are found effective in a lot of medical issues based over traditional beliefs.

Ethnomedicinal Plants in Wazirabad Distt Gujranwala, Punjab, Pakistan

S. No	Scientific name	Family	English name	Common name	Parts used	Medical Applications
1	*Solanum Nigrum*	*Solanaceae*	Petty morel	Makoh	Whole plant	Treatment of fever, Mouth ulcer, Urinary tract infections
2	*Eleusine Indica*	Poaceae	Yard grass	Hazar dani	Whole plant	Abdominal treatment, Hypertension, Retention of urine, To stop bleeding
3	*Vachellia Nilotica*	*Fabaceae*	Gum Arabic tree	Kekar	Flowers/ fruit	Loss of viscosity of semen
4	*Ocimum Basilicum*	*Lamiaceae*	Sweet basil	Rehan	Leaves	For digestive and nerve system, Stomach crump, Treatment of fever, Abdominal treatment
5	*Ficus Benghalen-sis*	*Moraceae*	Strangler fig	Bargad	Stem	Skin treatment, dental care, Strength of urtine muscle during pregnancy
6	*Eclipta- prostrate*	Asteraceae	False daisy	Bhangra	Leaves, flowers	Hair growth, Liver disorder Cough, Asthma
7	*Ziziphus Jujuba*	*Rhamnaceae*	Red date / jujube	Tamri	Whole plant. Fruit	Muscular strength, Old ulcer, Anti-carcinogenic, Insomnia, Lactation
8	*Ficus Religiosa*	*Moraceae*	Sacred fig	Pipal	Fruit	Breast abscess
9	*Foeniculum Vulgare*	*Apiaceae*	Fennel	Soond	Roots	Breast enlargement, Cancer treatment
10	*Allium Sativum*	*Amaryllidace-ae*	Garlic	Lasan	Stem	Cancer treatment, Low blood pressure
11	*Millettia Pinnata*	*Fabaceae*	Millettia pinnata	Beech	Fruit	Regulate blood sugar
12	*Cuminum Cyminum*	*Apiaceae*	Cumin	Safaid zeera	Seed	Menstrual pains, Diarrhoea, Fever, Insomnia, Anti-diabetes
13	*Shpaerathus Indicus*	*Not found*	Sphaerathus	Mundi booti	Flower	Headache, swelling, cough, skin diseases
14	*Vachellia Nilotica*	*Fabaceae*	Babul tree	Kikar ki phaliyan	Fruits	Diarrhoea, Control hair fall, Teeth disorderness
15	*Mentha Longifolia*	*Lamiaceae*	Mint	Podina	Leaves	Stomach disorderness, Help in digestion
16	*Punica Granatum*	*Lythraceae*	Pomegran-ate	Anar	Covers	Protect cells from damages, Reduce heart attack, heart stroke, Dental care
17	*Vitis Vinifera*	*Vitaceae*	Grapes	Angoor	Fruit	High fever, Vomiting, Weight loss, Heart diseases
18	*Phoenix Dactylifera*	*Arecaceae*	Date	Khajoor	Fruit	Respiratory diseases, Fever, diarrhea
19	*Ficus Carica*	*Moraceae*	Fig	Anjeer	Fruit	Diabetes, allergies
20	*Momordica Charantia*	*Cucurbitaceae*	Bitter gourd	Karayla	Fruit	Blood sugar level, Control cholesterol level, Glowing skin, Lustrous hairs
21	*Chlorophytum Borivilianum*	*Asparagaceae*	White musli	Safaid musli	Stem	Interaction with sexuality, Stress, cancer
22	*Daucus Carota Subsp. Sativus*	*Apiaceae*	Carrot	Gajjar	Stem	Cardiovascular disorder
23	*Crocus Sativus*	*Iridaceae*	Saffran	Zafran	Stem	Alzheimer, Asthma
24	*Viola Odorata*	*Violaceae*	Sweet violet	Banafsha	Whole Plant	Lowering the cholesterol, level, Blood cleaner
25	*Cordia Dichotoma*	*Boraginaceae*	Glue berry	Lasora	Fruit	Fresh wound treatment, Help in digestion, Skin diseases
26	*Withania Coagulans*	*Solanaceae*	Vegetable rennet	Paneer	Flower	Ulcer, Liver complaints
27	*Silybum Marianum*	*Asteraceae*	Milk thistle	Uonth ghatara	Whole Plant	Liver damages, Hypatitics, Diabetes
28	*Plantago Psyllium*	*Plantaginaceae*	Psyllium	Isabgol	Seed	Stomach, diarrhea
29	*Trachyspermum Ammi*	*Apiaceae*	Carom seeds	Ajwain	Seed	Stomach disorderness, Obesity
30	*Glycyrrhiza Glabra*	*Fabaceae*	Licorice	Malati	Roots	Ulcer, Chest infection, Digestion
31	*Pimpinella Anisum*	*Apiaceae*	Anise	Sonf	Seed	Stomach disorderness, Cough Increases urine flow

Table 1: Detailed data of ethnomedicinal plants of Wazirabad, Punjab, Pakistan.

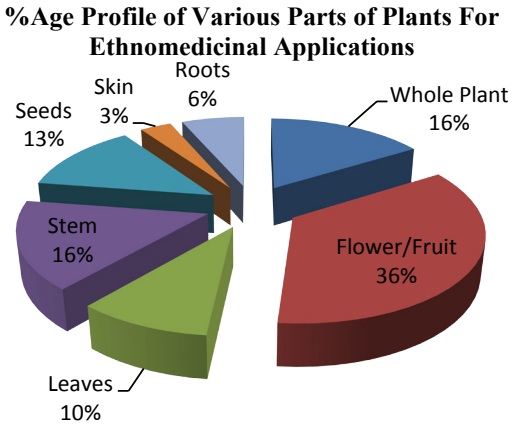

Figure 2: Pie chart of various parts of plants in ethnomedicinal applications.

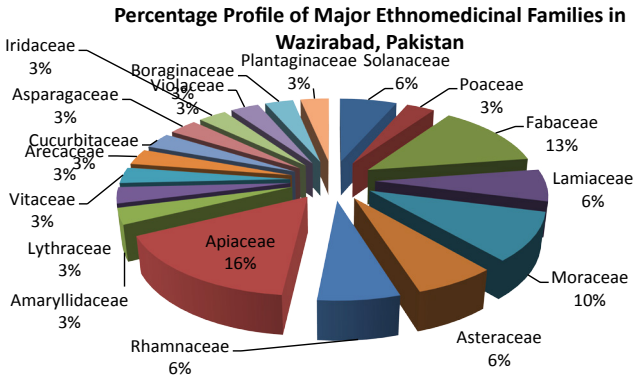

Figure 3: Percentage profile of major ethnomedicinal families of Wazirabad Dist, Gujranwala, Punjab, Pakistan.

The information generated from the study regarding the medicinal plants used by the local peoples need a through phytochemical and pharmacological analysis, which may be a step ahead towards the new drug development.

Comparison of remedial data of these ethnomedicinal plants with recent studies have provided some supporting evidences of medicinal powers also. Data of few families is provided as supporting material.

Conclusion

The collected information of ethnomedicinal plants of Wazirabad of particular families and genera provide valuable information about medicinal applications of plants. Ethno-botanical names along with details of their common names, botanical names and families could be helpful in new roots of drug development. These botanical facts have significant role in life. Further phytochemical and pharmacological investigations about the medicinal use of the plant may be a footstep in new drug development. The collected data will be helpful for the researchers that will work over that particular fields in order to collect these plants in appropriate time and survey about common plants that will be useful in such type of atmospheric and climate conditions. This is an open invitation for phytochemists and ethnobotanists to discover new mysteries in Wazirabad, Punjab, Pakistan. Medicines developed by studied are expected to be eco-friendly and free from side effects.

References

1. Rafique M, Tahir MA (1981) Pakistan Geographical Review 36: 8.
2. Shamsi RA, Hamid R (1961) Quality of ground water Thal doab. Basic data release No.7 WAPDA, Lahore.
3. Petruzzello M (2013) Taxonomy revised to reflect APG III system.
4. Amiri MS, Joharchi MR (2016) Ethnobotanical knowledge of Apiaceae family in Iran: A review. Adv J Phytomed 6: 621-635.
5. Martins N, Ferreira ICFR, Barros L, Santos-Buelga C (2016) Antioxidant potential of two Apiaceae plant extracts: A comparative study focused on the phenolic composition. Ind Crops Prod 79: 188-194.
6. Działo M, Mierziak J, Korzun U, Preisner M, Jan Szopa, et al. (2016) The potential of plant phenolics in prevention and therapy of skin disorders. Int J Mol Sci 17: 160.
7. Ashour ML, El-Readi M, Youns M, Mulyaningsih S, Sporer F, et al. (2009) Chemical composition and biological activity of the essential oil obtained from Bupleurum marginatum (Apiaceae) _J Pharm Pharmacol 61: 1079-1087.
8. Clement WL, Weiblen GD (2009) Morphological Evolution in the Mulberry Family (Moraceae), The American Society of Plant Taxonomists. Syst Biol 34: 530-552.
9. Judd WS, Campbell CS, Kellogg EA, Stevens PF, Donoghue MJ, et al. (2002) Plant Systematics: a Phylogenetic Approach, Sinauer Associates, Sunderland, Mass, USA, 2002.
10. Burham RJ, Johnson KR (2004) South american pleobotany and the origins of neotropical rain forests. Phil Trans Roy Soc London B 359: 1595-1610.
11. Kajita T, Ohashi H, Tateishi Y, Bailey CD, Doyle JJ, et al. (2001) Rbcl and legume phylogeny, with particular reference to Phaseoleae, Millettieae and allies. Syst Biol 26: 515-536.
12. Kirtikar KR, Basu BD (1987) Indian Medicinal Plants. PP: 1-4.
13. Lewis G, Schrire B, Mackinder B, Lock M (2005) Legumes of the World. Royal Botanical Gardens, Kew, UK.
14. Magalion SA, Sanderson MJ (2001) Absolute diversification rates in angiosperm clades. Evolution 55: 1762-1780.
15. Sprent JI (2009) Legume nodulation: A global perspective. Ames Lowa: Wiley-Blackwell 1st Edition p: 12.
16. Stevens PF (2008) Fabaceae: Angiosperm Phylogeny Website.
17. Mahbubur Rahman AHM (2014) Ismot Ara Parvin, Study of Medicinal Uses on Fabaceae Family at Rajshahi, Bangladesh. Research in Plant Sciences 2: 6-8.
18. Shah VV, Shah ND, Patrekar PV (2013) Medicinal plants from solanaceae family. Research J Pharm Tech 6.
19. Ansari SH (2006) Essentials of Pharmacognosy India 1st Edition PP: 448-456.