Available online www.jocpr.com

Journal of Chemical and Pharmaceutical Research, 2017, 9(3):351-355

Research Article

ISSN : 0975-7384
CODEN(USA) : JCPRC5

Documentation of Traditional Knowledge on Medicinal Plants used by Local Population of Kapurthala, Punjab (India)

Jaskirat Kaur, Rajinder Kaur and Avinash Kaur Nagpal*

Department of Botanical and Environmental Sciences, Guru Nanak Dev University, Amritsar, Punjab, India

---

ABSTRACT

The present study was carried out on 12 villages of Kapurthala District to collect the information about medicinal value of some commonly available plant species. A total of 55 medicinal plant species belonging to 32 different families are used by local people. The information was gathered by questionnaire based personal interviews of local inhabitants both rural as well as urban, herbal doctors, house wives, farmers and teachers. Most frequently used plant species are Azadirachta indica, Tinospora cordifolia, Ocimum sanctum, Aloe vera, Mentha piperita, etc. Old people were more aware of the traditional knowledge of plants than younger ones. Different plants are being used for the treatment of various diseases like diabetes, fever, cold, cough, jaundice, hair problems, skin diseases, stomach pain, eye sight and eye infection. The most commonly used plant parts are leaves, flowers, seeds and fruits. Most of the plants with medicinal values are being categorized into rare and endangered species because of their excessive harvest from the wild. There is a need to make the local communities aware of the traditional knowledge of medicinal plants, endangering nature of medicinal plants and the need for their conservation.

Keywords: Kapurthala; Medicinal plants; Traditional knowledge; Vedic literature

---

INTRODUCTION

Plants have been used to treat various human ailments since times immemorial. Human beings are dependent on plants for their different needs. Plants provide us food, fodder, fuel, medicine, timbers, dyes, fibres, fruit etc. The traditional methods of using plants as medicines have played an important role in our ancient system of health care [1,2]. The knowledge of wild plants as medicine is found in ancient Vedic literature, particularly in Rigveda, Charak Samhita and Shusruta Samhita. However, organised studies in this direction were initiated in the mid of 20th century [3].According to World Health Organization, 80% of the world population of most developing countries depends on herbal medicines [4]. Out of 4, 22,000 flowering plant species reported from the world, more than 50,000 are used for medicinal purposes [5]. In India more than 43% of total flowering plants are reported for medicinal importance. Knowledge on different uses of plants has been gathered by peopleover millennia and passed on orally from generation to generation [6].Knowledge developed over millennia by thousands of people is mostly unrecorded & it is facing a danger of becoming extinct. With the increasing rate of deforestation and concurrent loss of biodiversity, there is a need of documentation of this traditional knowledge of not only the experienced traditional herbalists but also from the local people of a region [6,7]. For the sake of public health there is a need to preserve and refine this information. Many studies have been conducted to analyse the medicinal properties of plant diversity in Punjab (India) and abroad [8-12].Keeping this in mind, a survey of different villages of Kapurthala district has been conducted to record the traditional knowledge of local population on medicinal uses of various plant species.

MATERIAL AND METHODS

Kapurthala district (31.3656° N, 75.2946° E) lies in North Western part of Punjab state and is surrounded by districts Amritsar, Gurdaspur, Jalandhar and Firozpur. District is spread in an area of 1633 km2 with a population of 817668 as per 2011 census (http://www.pbplanning.gov.in.) About 90% of the population lives in rural areas. According to District level Socio-Economic Statistical data of India, there are total 11 forest covers in Kapurthala District (9 open forests and 2 moderate to dense forests) and are rich in plant diversity (http://www.districtsofindia.com/index.aspx). (Figure 1)

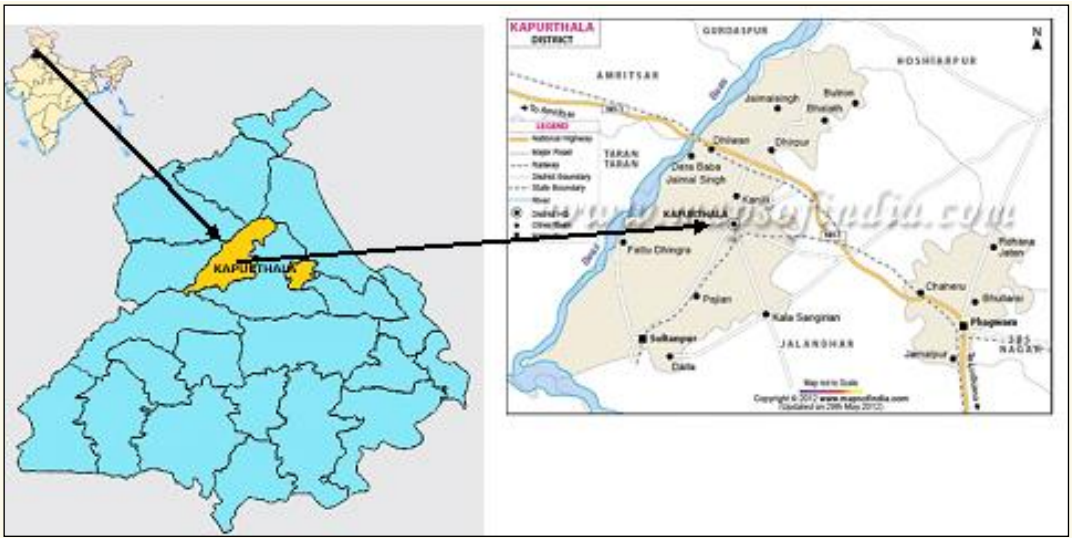

Figure 1: Map of Kapurthala District, Punjab, India (Kapurthala.gov.in/Handler.ashx?ID=33)

The study was conducted during March 2015-October 2016. About 12 villages were selected randomly for documentation on medicinal uses of plants. Total of 40 local inhabitants both rural as well as urban i.e. herbal doctors, house wives, farmers and teachers were consulted for the present study. The information was gathered by questionnaire based personal interviews of local people of both sexes and age groups of 26 and above. The interviews were conducted in English or Punjabi (local language) as per convenience of the informants. Field trips were also carried out along with some informants to know the habitats and availability of some plants and photographs were taken.

RESULTS AND DISCUSSION

Table 1 lists the botanical name, family, local name, habit of plant, plant part used as documented by 40 local people of Kapurthala District. These plant species belongs to 53 genera and 32 families of angiosperms. Among different families, Fabaceae is represented by eight species and Solanaceae is represented by 4 species and all other families are represented by one or two species. Figure 2 shows number of different life forms of plants species recorded in this study. Among different types of plants used for medicinal purposes trees and herbs are dominated. As among 55 plant species 21 were trees (38.18%), 20 were herbs (36.36%), 9 were shrubs (16.36%) and 5 were climbers (9.09%). Among different plant parts used for medicinal purposes, fruit/seeds of maximum no. of plant species (22) followed by leaves (19), stem/barks (19), seeds (8) and flowers (5) were used (Figure 3). Sidhu *et al*., [8] documented 110 plant species belonging to 97 genera and 51 families from Hoshiarpur district of Punjab. These plant species were used for treatment of 40 different ailments. Singh and Singh [9] studied medicinal uses of 72 different plant species from Central Haryana, India, which includes species like *Acacia nilotica*, *Capparis decidua*, *Citrullus colocynthis*, *Ricinus communis*, *Withania somnifera* etc. Rana *et al*., [10] studied 67 plant species belonging to 59 genera and 36 families for their medicinal uses from Pangi Valley of District Chamba, Himachal Pradesh, India. Maroyi [11] studied 93 medicinal plant species representing 41 families, 77 genera from South-Central parts of Zimbabwe. These studies also prove the significance of analyzing knowledge of local people for plant medicinal uses, which can be significant alternative to synthetic medicines. Thus the present study can prove to be a significant contribution to the existing knowledge regarding medicinal uses of plant diversity of Punjab.

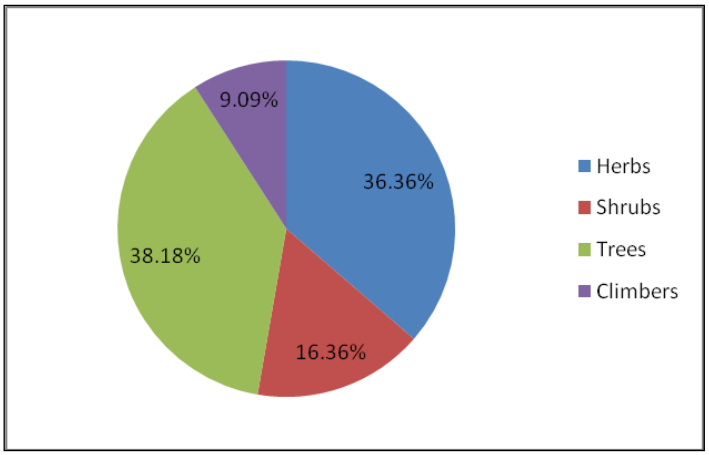

Figure 2: Types of plants used for different medicinal purposes by local people of Kapurthala District

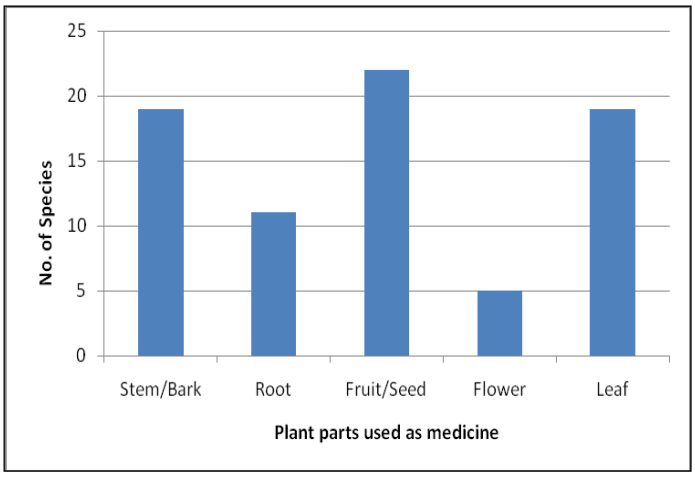

Figure 3: Plant parts of different species used for medicinal purposes by local people of Kapurthala District

Table 1: List of plant species used by local people of Kapurthala District for various medicinal uses

S No	Botanical Name	Family	Local Name	Habit	Part(s) used	Medicinal uses
1	*Abutilon indicum*	Malvaceae	Atibala, Kanghi	Shrub	All parts of the plant	Nervine tonic, anti-inflammatory, cardiac tonic, anti-diabetic, laxative
2	*Azadirachta indica*	Meliaceae	Neem, Nimmh	Tree	Leaves	Anti-diabetic, antibacterial, antiviral,
					Twigs	Antiseptic, antimicrobial, antifungal, blood-purifying
3	*Acacia arabica*	Fabaceae	Kikar	Tree	Leaves	Diarrhoea, conjunctivitis
					Bark	Eczema, leucorrhoea
					Pods	Spermatorrhea, premature ejaculation
4	*Acacia modesta*	Fabaceae	Phulai	Tree	Twigs	Strong teeth
5	*Achyranthes aspera*	Amaranthaceae	Apamarg	Shrub	Leaves	Cough, stomach ache, skin problems, wounds
					Seeds	Piles
6	*Aegle marmelos*	Rutaceae	Bael	Tree	Fruits	Constipation, anti-diabetic
					Leaves	Increasing appetite
7	*Asparagus racemous*	Asparagaceae	Shatavari	Climbing vine	Roots	Aphrodisiac, menstrual disorders, dyspepsia, galactagogue
					Leaves	Leucorrhoea
8	*Anacylcus pyrethrum*	Asteraceae	Akarkara	Herb	All parts	Aphrodisiac, headache, migraine
					Root	Paralysis, rheumatism, epilepsy

9	*Aloe vera*	Liliaceae	Kwar	Herb	Leaves	Skin moisturiser, skin burnt, arthritis, anti-inflammatory
10	*Bryophyllum pinnatum*	Crassulaceae	Patharchat	Herb	Leaves	Wounds, cuts, ulcers, burns, otorrhoea, kidney stones
11	*Commiphora wightii*	Bruseraceae	Gugal	Shrub	Gum/Resin from stem	Anti-inflammatory, anti-rheumatic and anti-cholestrolaemic
12	*Bauhinia variegata*	Fabaceae	Kachnar	Tree	Stem bark	Goiter, thyroid problems
13	*Cinnamomum zeylanicum*	Lauraceae	Dalchini	Tree	Inner bark	Cold and cough, weak Digestion
14	*Colchicum luteum*	Liliaceae	Suranjan	Herb	Rhizome or corm	Anaphrodisiac, diaphoretic, sedative, anti-rheumatic, anti-inflammatory
15	*Cuminum cyminum*	Apiaceae	Jeera	Herb	Seeds	Galacatagogue, digestive weakness, hyper-acidity, leucorrhoea
16	*Cholorophytum borivillianum*	Liliaceae	Safed Musli	Herb	Tuberous Root and Rhizome	Aphrodisiac, galactagogue, premature ejaculation, leucorrhoea, epilepsy
17	*Citrullus colocynthus*	Cucurbitaceae	Kod tuma	Vine or creeper	Fruit	Antidiabetic
18	*Cichorium intybus*	Asteraceae	Kasni, Chicory	Herb	Whole plant	Liver tonic
					Roots	Anti-inflammatory
19	*Capsicum annum*	Solanaceae	Mirch	Herb	Fruit	Immunity booster, anti-inflammatory, eye sight
20	*Cassia fistula*	Fabaceae	Amaltas	Tree	Fruit pulp	Constipation, chronic cough
21	*Carrisa carandas*	Apocynaceae	Karonda	Shrub	Fruit	Biliousness
22	*Cuscuta reflexa*	Convolvulaceae	Amarbel, zarbut	Parasitic climber	Whole plant	Piles, constipation, itching,
23	*Convolvulus pluricaulis*	Convulvulaceae	Shankhpushpi	Herb	Whole plant	Brain tonic
24	*Dalbergia sissoo*	Fabaceae	Tahli,shisham	Tree	Leaves	Diarrhoea, piles
25	*Euryale ferox*	Nymphaceae	Makhana	Herb	Seeds	Spermatogenesis, uterus weakness, impotency
26	*Eucalyptus globulus*	Myrtaceae	Safeda	Tree	Leaf oil	Fatigue, backache, rheumatism, asthma,
27	*Euphorbia nerifolia*	Euphorbiaceae	Thohar	Shrub	Leaf latex	Ear pain and infection, anti-inflammatory, cracked heels
28	*Ficus benghalensis*	Moraceae	Bohar	Tree	Dry roots,	Female infertility
					Leaf buds	Conception
29	Ficus racemosa	Moraceae	Goolar	Tree	Dried figs	Menorrhagia
					Stem latex	Cracked heels
30	*Glycyrrhiza glabra*	Fabaceae	Mulethi	Herb	Dried roots	Respiratory problems and sore throat, weight loss
31	*Grewia asiatica*	Malvaceae	Phalsa	Tree	Ripe fruit	Antioxidant, anticancer, heat stroke, headache
32	*Hyoscymus niger*	Solanaceae	Khurasani	Herb	Seeds	Intestinal parasites, ear pain, rheumatism
33	*Holarrhena antidysenterica*	Apocynaceae	Kutaj	Tree	Bark	Dysentery, piles, skin problems, boils, eczema
34	*Kigelia pinnata*	Bignoniaceae	Balam-kheera	Tree	Fruit	Rheumatism
35	*Linum usatitisimum*	Linaceae	Alsi	Herb	Seeds	Analgesic, anti-inflammatory, galactagogue
36	*Mentha piperata*	Lamiaceae	Pudina, Pootna	Herb	Leaves	Indigestion, hepatoprotective
37	Murraya koengii	Rutaceae	Kadhi-Patta,	Tree	Leaves	Anti-diabetic
			Meethi neem			
38	*Melia azedarach*	Meliaceae	Dhrek	Tree	Seeds	Piles, leucorrhoea
39	*Moringa oleifera*	Moringaceae	Sohajna	Tree	Leaves	Anti-diabetic, anti-inflammatory, arthritis
40	*Momordica charantia*	Cucurbitaceae	Karela	Herbaceous vine	Fruit	Anti-diabetic, intestinal parasites
41	*Ocimum sanctum*	Lamiaceae	Tulsi	Herb	Leaves	Fever, cold, cough and flu
42	*Oxalis*	Oxalidaceae	Changeri	Herb	Leaves	Indigestion, headache,

	corniculata					bleeding piles
43	*Oroxylum indicum*	Bignoniaceae	Talvarphali	Tree	Bark	Diarrhoea, postpartum weakness
44	*Pongamia glabra*	Fabaceae	Sukhchain	Tree	Twig	Strong teeth
45	*Rosa Indica*	Rosaceae	Gulab	Shrub	Petals	Menstrual problems, skin Problems
46	*Ricinus communis*	Euphorbiaceae	Arind	Shrub	Seed oil	Anti-inflammatory, constipation
47	*Saraca asoca*	Fabaceae	Ashoka	Tree	Bark	Menstrual problems, leucorrhoea
48	*Syzygium aromaticum*	Myrtaceae	Laung	Tree	Flower buds	Indigestion, toothache
49	*Solanum surrattense*	Solanaceae	Kantakari	Shrub	Whole plant	Anti-inflammatory, cough, painful urination
50	*Sesamum indicum*	Pedaliaceae	Til	Herb	Seeds	Joint pain, anti-inflammatory, arthritis
51	*Saccharum officinarum*	Poaceae	Ganna	Herb	Stems	Jaundice
52	*Spinach oleracea*	Amaranthaceae	Palak	Herb	Leaves	Anaemia, constipation
53	Tinospora cordifolia	Menispermiaceae	Giloy	Climbing	Stems	Dengue fever, swine flu
				Shrub		
54	Withania somnifera	Solanaceae	Ashwgandha	Shrub	Leaves	Weight loss
					Root	Weight gain
55	*Zingiber officinale*	Zingiberaceae	Adrak	Herb	Rhizome	Cold, Cough, Flu, Indigestion

CONCLUSION

The present study is an attempt to document traditional knowledge on medicinal uses of plants gathered from 40 individuals consulted from 12 villages of District Kapurthala. The traditional knowledge on the use of plants in folk medicine has been passed down from generation to generation mostly through oral communication without any proper documentation and consequently much of such useful information gets lost with individual possessing it or gets distorted during oral communication. There is growing concern regarding loss of traditional wisdom on the medicinal uses of plants due to modernization of our life style. Hence, it becomes important to document such traditional knowledge before it is completely lost.

ACKNOWLEDGEMENT

The authors acknowledge UGC for financial support under UPE, CPEPA, SAP programmes and UGC-MANF to Jaskirat Kaur.

REFERENCES

[1] MK Sinha; VK Kanungo; ML Naik. *Int J Curr Res Biosci Plant Biol*, **2016**, 3(5), 120-126.
[2] Geeta; Richa; ML Sharma. *Int J Pharm Bio Sci*, **2015**, 6 (2), 551-558.
[3] BD Vashistha; M Kaur. *Int J Pharm Bio Sci*, **2013**, 4(2), 353-360.
[4] NA Pala; AK Negi; NP Todaria. *Nat Sci*, **2010**, 8(6), 57-61.
[5] SK Uniyal; KN Singh; P Jamwal, B Lal. *J Ethnobiol Ethnomed*, **2006**, 2(14), 1-8.
[6] S Ignacimuthu; M Ayyanar; SK Sivaraman. *J Ethnobiol Ethnomed*, **2006**, 2(25), 1-7.
[7] AK Gautam; MK Bhatia; R Bhadauria. *J Phytol*, **2011**, 3(2), 24-36.
[8] MC Sidhu; K Kaur; AS Ahluwalia. *J Phytol*, **2011**, 3(9), 10-19.
[9] B Singh; J Singh. *Phytodiversity*, **2014**, 1(1&2), 7-24
[10] PK Rana; P Kumar; VK Singhal; JC Rana. *Sci World J*, **2014**, 1-15.
[11] A Maroyi. *J Ethnobiol Ethnomed*, **2013**, 9(13),1-18
[12] M Parvaiz. *Avicenna J Phytomed*, **2014**, 4(5), 364-370.