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TRADITIONAL PLANT REMEDIES FOR PUBLIC HEALTH IN NAWANSHAHAR DISTRICT OF PUNJAB

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ABSTRACT

The knowledge and practice of using of medicinal plant species by local people and traditional healers was investigated in Nawanshahar district of Punjab during 2010- 2011. Field surveys were conducted using semi-structured questionnaire. Ten villages were randomly selected from the district Nawanshahar. Similarly ten people per village were contacted for ethno-botanical study. It has been observed that nearly 73 plant species belonging to 68 genera and 40 families were routinely used by the local residents to take care of various human disorders. It has been observed that maximum number of 23 species is being utilized for the treatment of indigestion and only four species to treat ear problems. The most frequently used plant part was the leaves (30.5%) followed by seeds (19.6%) and fruits (18.5%).

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Key Words

Traditional medicines, survey, uses, status, Punjab.

INTRODUCTION

Plants species are very important for day to day life as they provide oxygen, food, fodder, dyes, wood, timber, fuel, fiber, vegetables, fruits etc. Many plant species have been known to be of high medicinal importance and are used by the people to cure different human as well as animal health related problems/ailments. Till date more than 80% of the people in the developing countries are somehow depending upon these remedies. Ethno-botanical studies, especially concerning the medicinal use of various plant species, have revealed the significance of local/ traditional plant species being used for medicines. These remedies have been very well documented and are in the form a record for the use of future generations. But this is not the case everywhere since at many places this valuable traditional knowledge is being vanishing because the younger generations are no more interested in such practices as they are time consuming, laborious and require availability of the raw materials. Most of the communities residing in the rural areas of Mizoram are still following the traditional method of treatment⁵. Traditional medicines are still the primary source to treat various health troubles in some part of Nepal and further evaluation of these remedies is highly required¹. To the best of our knowledge, there is no data available regarding the traditional medicines in Nawanshahar district of Punjab. Keeping in view the significance of the traditional medicines, a survey was conducted to know the use of various plants species for the treatment of human as well as animal diseases in Nawanshahar district of Punjab.

MATERIALS AND METHODS

Table 1 Use of different plant species as traditional remedies

S. No	Family	Genus	Part(s) used	Disease(s)	Source(s)
1.	Amaranthaceae	<i>Achyranthes aspera</i>	Seeds	Cough & cold, epilepsy	W*
2.	Anacardiaceae	<i>Mangifera indica</i>	Fruits	Constipation, indigestion	KG [♂]
3.	Apiaceae	<i>Anethum graveolens</i>	Seeds	Constipation, indigestion	KG
		<i>Coriandrum sativum</i>	Seeds & leaves	Piles, coolant	KG
		<i>Ferula narthax</i>	Seeds	Indigestion	M [♀]
		<i>Foeniculum vulgare</i>	Seeds	Cough & cold, constipation, vomiting	KG

Nawanshahar (presently Shahid Bhagat Singh Nagar) district of Punjab covering an area of 125833 hectares is situated in 31.8° N and 76.7° E part of Punjab. The neighboring districts include that of Jalandhar, Roop Nagar (Ropar), Hoshiarpur, Ludhiana and Kapurthala. An ethno-botanical survey was conducted in randomly selected 10 villages of Nawanshahar district of Punjab during 2010-2011. Similarly 10 people were interviewed for ethno-botanical studies. The survey was conducted using semi-structured questionnaire. The people contacted for study were both males and females and preferably between the age of 30-75 years. The data was collected regarding the use of various plant species for human as well as animal ailments, plant part(s) used, mode of application, availability, local name, added value etc. Along with this field survey were also conducted to document the existing plant species to know the species diversity of the area under investigation. Field photographs of the existing species have been taken as a record.

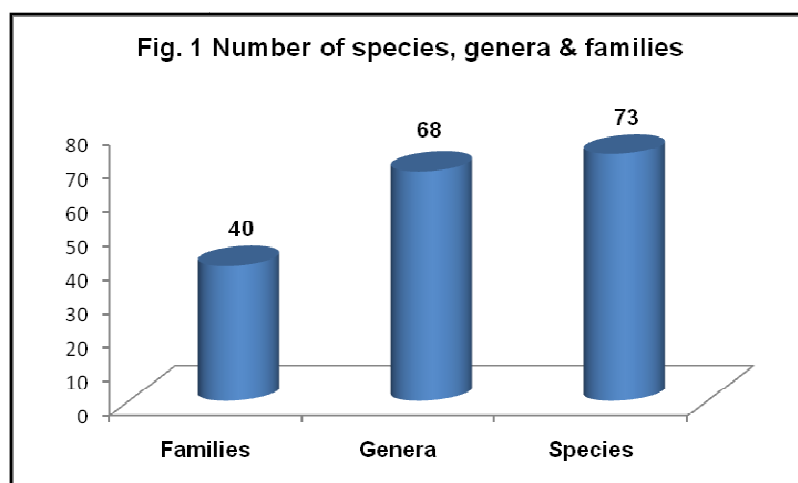
RESULTS AND DISCUSSIONS

The present investigation revealed the medicinal properties of 73 species belonging to 68 genera under 40 families (Table-1, Fig. 1). It has been observed that species belonging to families Apiaceae and Cruciferae are more in use (5 species each), followed by Solanaceae (4 species). The remaining 37 families contributed less than four species each (Table 2). Most of these species were cultivated (57.5%) and few were wild (17.5%) while rest of the species comes under both cultivated as well as wild category. Amongst the cultivated species, 78% are grown in kitchen garden and 22% as field crops. Majority of these species are herbs followed by trees, shrubs and climbers (Fig. 2).

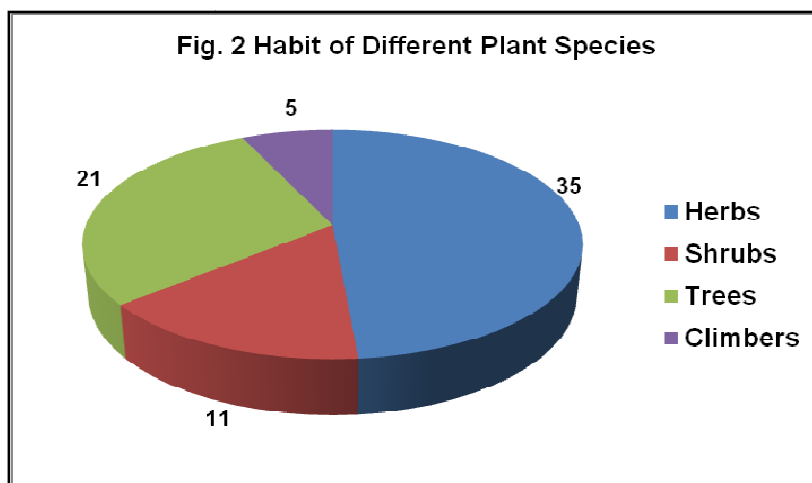
		<i>Trachyspermum ammi</i>	Seeds	Cough & cold, fever, stomach-ache	KG
4.	Apocynaceae	<i>Vinca rosea</i>	Leaves & flowers	Dog bite , skin infection, snake bite	O♣
5.	Asclepiadaceae	<i>Calotropis procera</i>	Leaves, exudates, buds	Dog bite, paralysis , snake bite, blisters	W
6.	Caricaceae	<i>Carica papaya</i>	Fruits	Constipation, eyesight, anemia	KG
7.	Chenopodiaceae	<i>Spinacea oleracea</i>	Leaves	Diabetes, anemia	KG
		<i>Chenopodium album</i>	Leaves & stem	Liver diseases , Jaundice	KG
8.	Combretaceae	<i>Terminalia arjuna</i>	Bark	Constipation, diabetes, diarrhoea	W
		<i>Prunus dulcis</i>	Seeds	Brain tonic	M
9.	Convolvulaceae	<i>Cuscuta reflexa</i>	Whole plant	Body ache, piles & Feet swelling	W
10.	Crassulaceae	<i>Bryophyllum pinnatum</i>	Leaves	Ear ache, stone, blisters	O
11.	Cruciferae	<i>Brassica campestris</i>	Seeds	Allergy, burn, ear ache, Feet swelling, bone fracture, wounds	C✕
		<i>Brassica rapa</i>	Roots	Constipation, Feet swelling	C
		<i>Daucus carota</i>	Roots	Improve Eye sight	KG
		<i>Lepidium sativum</i>	Leaves & seeds	Relief from backache	C
		<i>Raphanus sativus</i>	Roots	Kidney stone, piles, jaundice	KG
12.	Cucurbitaceae	<i>Cucumis sativus</i>	Fruits	Skin problem, improve eye sight, piles	KG
		<i>Cucurbita pepo</i>	Fruits	Epilepsy, jaundice, piles, diabetes	KG
		<i>Momordica charantia</i>	Fruits	Diabetes	KG
13.	Euphorbiaceae	<i>Embllica officinalis</i>	Fruits	Control uric acid level, hair problem, brain tonic	KG
		<i>Ricinus communis</i>	Seeds, leaves	Arthritis, blisters	W
14.	Fabaceae	<i>Dalbergia sissoo</i>	Stem, leaves	Tooth ache, nose bleeding	W
		<i>Glycyrrhiza glabra</i>	Roots	Cough & cold	M
		<i>Indigofera linifolia</i>	Leaves	Diarrhoea in animals	W
15.	Lamiaceae	<i>Mentha arvensis</i>	Leaves	Acidity, vomiting, cholera	KG
		<i>Ocimum basilicum</i>	Leaves	Fever, diabetes, coolant	KG
		<i>Ocimum sanctum</i>	Leaves	Cough & cold, fever	KG
16.	Lauraceae	<i>Cinnamomum camphora</i>	Bark	Chicken pox, hair lice	M
17.	Liliaceae	<i>Allium cepa</i>	Bulbs	Vomiting, snake bite	KG
		<i>Allium sativum</i>	Bulbs	Ear ache, arthritis, heart problem	KG
		<i>Aloe vera</i>	Leaves	Skin infection, blood purifier, blisters, indigestion in animals	O
18.	Linaceae	<i>Linum usitatissimum</i>	Seeds	Fracture, arthritis	C
19.	Lythraceae	<i>Lawsonia inermis</i>	Leaves	To treat burns	M/ KG
20.	Malvaceae	<i>Gossypium arboreum</i>	Seeds, cotton bolls	Increase milk production in animals, for dressing	C/M
21.	Meliaceae	<i>Azadirachta indica</i>	Leaves, stem	Allergy, dog bite, skin infection, feet swelling, diabetes, wounds, toothache, blood purifier	KG
		<i>Melia azadirach</i>	Leaves	Skin problem, snake bite, wounds	KG

22.	Mimosiaceae	<i>Albizia lebbek</i>	Bark, fruit, leaves	Eye problem in animal	W
23.	Menispermaceae	<i>Tinospora cordifolia</i>	Whole plant	Typhoid	W
24.	Moraceae	<i>Ficus religiosa</i>	Exudates, bark, leaves, fruits	Burn, typhoid, piles, diabetes	W
25.	Moringaceae	<i>Moringa oleifera</i>	Pods, leaves	Epilepsy	W/ KG
26.	Musaceae	<i>Musa paradisiaca</i>	Fruits	Loose motions	KG
27.	Myrtaceae	<i>Eugenia caryophyllum</i>	Floral buds	Cough & cold, toothache	M
		<i>Psidium guajava</i>	Fruits & leaves	Mouth ulcers, anemia	KG
		<i>Syzygium cumini</i>	Seed, fruits, leaves	Paralysis, diabetes, diarrhoea in animals	KG
28.	Papaveraceae	<i>Papaver somniferum</i>	Seeds, exudates	Paralysis & diabetes	M/O
29.	Piperaceae	<i>Piper nigrum</i>	Seeds	Cough & cold, toothache	M
30.	Plantaginaceae	<i>Plantago ovata</i>	Husk	Constipation, coolant	M
31.	Poaceae	<i>Bambusa sps.</i>	Stem	Paralysis	W
		<i>Hordeum vulgare</i>	Seeds	Piles, coolant	C
		<i>Oryza sativa</i>	Seeds	Diarrhoea	C
		<i>Saccharum officinarum</i>	Stem	Jaundice	C
32.	Rhamnaceae	<i>Zizyphus jujuba</i>	Leaves	Hair problems	W
	Rosaceae	<i>Prunus persica</i>	Fruits	Eye sight, jaundice	KG
		<i>Punica granatum</i>	Seeds	Jaundice	KG
34.	Rutaceae	<i>Aegle marmelos</i>	Fruits	Heart problems, fever, diabetes	KG
		<i>Citrus limon</i>	Fruits	Acidity, kidney stone, coolant	KG
		<i>Murraya koenigii</i>	Leaves	Indigestion	KG/M
35.	Solanaceae	<i>Capsicum annum</i>	Fruits	Dog bite	KG
		<i>Solanum lycopersicum</i>	Fruits	Antihelmenthes	C/ KG
		<i>Solanum tuberosum</i>	Tubers	To treat burns	C/ KG
		<i>Withania somnifera</i>	Whole plant	Cough & cold, brain tonic	M
36.	Sapindaceae	<i>Sapindus mukorossi</i>	Fruits	Hair fall	M
37.	Theaceae	<i>Camellia thea</i>	Leaves	Headache, indigestion	M
38.	Verbenaceae	<i>Vitex negundo</i>	Leaves	Indigestion in animals	W
39.	Violaceae	<i>Viola odorata</i>	Whole plant	Cough & cold	M
40.	Zingiberaceae	<i>Curcuma longa</i>	Rhizome	Skin infection, wounds, internal injury	KG
		<i>Elettaria cardamomum</i>	Fruits, seeds	Cough & cold, vomiting	M
		<i>Zingiber officinale</i>	Rhizome	Cough & cold, arthritis, indigestion in animals	KG

W*=wild, KG♣=Kitchen Garden, M♣=Market, O♣=Ornamental, C*♣=Cultivated

**Table 2** Family wise distribution of plant species

Family	No. of species	%age	Family	No. of species	%age
Amaranthaceae	1	1.36	Meliaceae	2	2.73
Anacardiaceae	1	1.36	Mimosiaceae	1	1.36
Apiaceae	5	6.84	Menispermaceae	1	1.36
Apocynaceae	1	1.36	Moraceae	1	1.36
Asclepiadaceae	1	1.36	Moringaceae	1	1.36
Caricaceae	1	1.36	Musaceae	1	1.36
Chenopodiaceae	2	2.73	Myrtaceae	3	4.10
Convolvulaceae	1	1.36	Papaveraceae	1	1.36
Combretaceae	2	2.73	Piperaceae	1	1.36
Crassulaceae	1	1.36	Plantaginaceae	1	1.36
Cruciferae	5	6.84	Poaceae	4	4.57
Cucurbitaceae	3	4.10	Rhamnaceae	1	1.36
Euphorbiaceae	2	2.73	Rosaceae	2	2.73
Fabaceae	3	4.10	Rutaceae	3	4.10
Lamiaceae	3	4.10	Sapindaceae	1	1.36
Lauraceae	1	1.36	Solanaceae	4	4.57
Liliaceae	3	4.10	Theaceae	1	1.36
Linaceae	1	1.36	Verbenaceae	1	1.36
Lythraceae	1	1.36	Violaceae	1	1.36
Malvaceae	1	1.36	Zingiberaceae	3	4.10



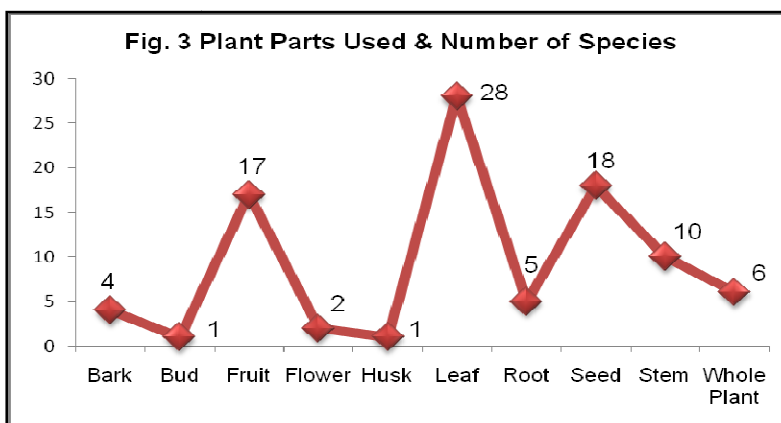
Altogether 35 different ailments have been reported to be cured by the 73 plant species. Maximum number of plant species is available for the treatment of indigestion, cough & cold, fever, constipation, diabetes and skin infections *etc.* (Table 3). The most common mode of application of these remedies is oral and in the form of decoction and fresh extract. Most of the remedial preparation is from single plant, but sometimes they are mixture of number of species. However some researchers were of the opinion that some preparations are made only when more than two species are used collectively⁷. Amongst the various plant parts used, leaves are the most frequently used part (30.5%) followed by the seeds (19.6%) and fruits 18.5 per cent (Fig. 3). Studied on the medicinal plants used by traditional healers in Kancheepuram District of Tamil

Nadu suggested that leaves are used most commonly³. Leaves were reported to be the most commonly used plant part in various remedial preparations^{2, 4}. A survey was conducted in Kapurthala district of Punjab revealed that 60 plant species belonging to 31 families are being used to cure 30 ailments. It shows that natives of the present study site are using more plant species⁶. During field survey around 285 plant species have been documented in the study area. As mentioned above, natives are using only 73 species for treating various ailments. This shows that people are not well aware of the importance of plant species occurring in their vicinity that can be utilized to cure number of human as well as animal health related problems.

Table 3 Number of species used for individual treatment

Ailment(s)	No. of species	%age
Acidity	9	4.36
Body ache	6	2.91
Burns	8	3.88
Constipation	15	7.28
Cough/Cold	14	6.79
Diabetes	14	6.79
Dog bite	6	2.91
Ear problems	4	1.94
Eye problems	11	5.33

Feet swelling	8	3.88
Fever	15	7.28
Indigestion	23	11.16
Jaundice	13	6.31
Joint pain	7	3.39
Kidney stone	8	3.88
Mouth ulcers	6	2.91
Piles	10	4.85
Skin problems	10	4.85
Snake bite	5	2.42
Toothache	5	2.42
Vomiting	9	4.36



CONCLUSION

Evidences collected during the present investigation established that there are some medicinal plant species which are being regularly used by the natives of the study area for the treatment of various health related problems as traditional remedies in spite of the availability of the latest medical facilities. They prefer to use these species which are easily available in their kitchen garden or vicinity. A variety of plants (23 species) are being used to cure problems related to indigestion and fewer (4 species) for the treatment of ear infections. The fruit is amongst the other plant part which is used frequently whereas bud and husk are the least preferred plant part. During field investigation especially between January to March, 2011 around 275 species have been recorded. The number of plant species documented as of medicinal importance is quite high as compared to those being used for various traditional remedies. This indicates that the flora of the

area under investigation has not been fully known to the people and hence poorly exploited for their medicinal importance.

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