

Indigenous Use of Medicinal Plants for Health Care

Kiranjot Sidhu* and Kunwarjeet Pannu

*Department of Home Science Extension Education, Punjab Agricultural University,
Ludhaina 141 001, Punjab, India
E-mail: sidhs79@hotmail.com

KEYWORDS Health Care. Medicinal Plants. Pharmacognosy. Pharmacology

ABSTRACT Plants have been used for health care at household level both in processed and unprocessed form since remote past. Their identification, validation and documentation can help to pass this knowledge to the future generations. The efforts made under the extension component of All India Coordinated Research Project on Home Science yielded data on plants used for health care. The data on the pharmacognosy status of the eleven identified medicinal plants used in the state of Punjab for eight problems reveal that parts of trees, herbs and shrubs such as margosa, onion, sacred basil, turmeric, soap nut, Indian gooseberry asparagus, saffron and almond were used to prevent and cure problems related to aches and pains, eye infection, fever, weakness, dog bite, boils and wounds and hair fall. The most used part for treating the disorders were leaves followed by bulbs and fruits. These plants were used as they possessed properties which proved effective for health care purpose. This information needs to be disseminated through planned strategies for extensive use by the masses.

INTRODUCTION

The history of the health care in India can be traced to the remote past, where the use of biological and geological resources was prevalent. The practitioners of various Indian systems of medicine in different parts of India tried to utilize the local resources as far as possible and accepted those which were found useful after trial. The use of resources has been prevalent indigenously and the knowledge transmitted from generation to generation through the word of mouth and general observations. Indigenous knowledge is stored in people's, memories and activities and it is expressed in the form of stories, songs, folklore, proverbs dances, myths, cultural values, beliefs, rituals, community laws, local language and taxonomy, agricultural practices, equipment, materials, plant species and animal breeds (Atte 1992).

The indigenous knowledge consists of a vast array of knowledge regarding the use of plant material for health purposes. World Bank Report (1998) has shown twenty percent of medicines as contribution from 'Indigenous Knowledge World'. Nearly seventy-five per cent of the 121

plants derived prescription drugs used world wide were discovered following leads from indigenous medicine (Paul and Ramanathan 2002).

Therefore a conscious effort was made under the Extension Component of All India Coordinated Research Project on Home Science to collect indigenous knowledge, rationalize and document it for perseverance and future use. It was with this goal that the task of collecting, rationalizing was undertaken and the data collected was documented in form of technical bulletin on health care practices. The present paper pertains to the pharmacognosy and pharmacological status of the identified plants used in health care practices.

MATERIALS AND METHODS

Data was collected from rural folks through the use of participatory techniques regarding aches and pains, eye infection, fever, weakness, dog bite, boils and wounds and hair fall. Their past practices regarding the use of medicinal plants were recorded. The information pertaining to use of medicinal plants was documented for the purpose of the study. Three step approach was used to document the information:

Identification of Indigenous Knowledge:

Information was elicited through key informant interviews and focus group discussions. Participant observation helped in mutual sharing and learning. Transect walk and note-taking were

Address for correspondence:

Kiranjot Sidhu
Department of Extension Education,
Punjab Agricultural University,
Ludhaina 141 004, Punjab India
E-mail: sidhs79@gmail.com

used to seek in-depth information and document the first hand information in the rural setting.

Validation of Indigenous Knowledge: The views of experts and the literature helped to determine the scientific rationality and comparability of obtained information with principles of science. Scientific validation was done at three levels and was similarly documented at the later stages:

Pharmacognosy: Dealt with taxonomical classification and morphological explanation of plant kingdom.

Pharmacology: Dealt with the properties and action with respect to body functions.

Application and Pharmaceutics: Dealt with formulations, form, dosage, frequency and duration of consumption.

However the results discussed in this paper pertains only to first two levels.

RESULTS AND DISCUSSION

Pharmacognosy Status of the Identified Plants

Plants and their parts were found to be used by rural families in processed and non-processed form for general health care practices. The total of eleven plants were found to be used for seven selected problems. The common plants used for health-care was Margosa, Onion, Sacred basil, Turmeric, Soap nut, Indian gooseberry Asparagus, Saffron and Almond (Table 1). These were used to prevent and cure problems related to aches and pains, eye infection, fever, weakness, dog bite, boils and wounds and hair fall.

Margosa was the most common plant found use in prevention and cure of aches and pains, eye infection, fever and boils and wounds. For eye infection and weakness, onion was used. Indian gooseberry and Soap nut tree were used for preventing fall of hair and to blacken the hair.

The other identified plants used were Saffron, Purging croton, Almond and Winter cherry which were used for eye infection and weakness. Hedge (1996) also reported the use of Margosa for treating major disorder and diseases such as leprosy, lucoderma, jaundice, piles, chroniculcer, diabetes, blood clots and hypertension beside serving as a home remedy for sore gums, tooth ache and endoparantes, ringworms and as a disinfectant and mouth wash.

Regarding the pharmacognosy status of the plants used, the majority were trees like Margosa, Purging Croton, Almond, Indian goose berry and Soapnut tree. Herbs like Onion, Saffron and Sacred basil were used. However the number of shrubs used was less as compared to trees and herbs. Three shrubs i.e Asparagus, Turmeric and Winter cherry were reportedly used for health care. Further the table shows that in majority of the cases leaves followed by bulbs and fruits were used for treating the disorders. The most used leaves were of Margosa and Sacred basil. Bulbs of Onion were used to treat eye infection and dog bite. Fruits of trees like Indian goose berry and Soap nut were used to prevent hair falling. Seeds of Purging Croton, dry stigma of Saffron were used to treat eye infection. Tubers of Wild asparagus, rhizome of Turmeric, nuts of Almond and roots of Winter cherry were used to treat weakness.

Table1. Pharmacognosy status of plants used indigenously for health care practices

| Disorder | Common name | English Name | Botanical name | Pharmacognosy status | Parts used |
|----------------|-------------|--------------------------------------|--|----------------------|-------------------|
| Aches and Pain | Nim | Margosa | <i>Azadirachta indica</i> | Tree | Stem |
| | Piyaz | Onion | <i>Allium cepa</i> | Herb | Bulb |
| Eye Infection | Nim | Margosa | <i>Azadirachta indica</i> | Tree | Leaves |
| | Kesar | Saffron | <i>Crocus Sativus</i> | Herb | Dry stigma |
| | Jamal Gota | Purging Croton | <i>Croton tiglium</i> | Tree | Seeds |
| | Tulsi | Sacred Basil | <i>Ocimum tenuiflorum</i> | Herb | Leaves |
| | Nim | Margosa | <i>Azadirachta indica</i> | Tree | Stalk & leaves |
| Fever | Satavar | Wild asparagus | <i>Aasparagus racemosus</i> | Shrub | Tubers |
| Weakness | Haldi | Turmeric | <i>Curcuma longa</i> | Shrub | Rhizome |
| | Badam | Almond | <i>Prunus dulcis</i> | Tree | Nuts |
| | Asgandh | Winter Cherry | <i>Withania somnifera</i> | Shrub | Roots |
| Boils & Wounds | Nim | Margosa/ Indian-lilac | <i>Azadirachta indica</i> | Tree | Leaves & barks |
| | AnwalaRitta | Indian gooseberry Soapnut tree | <i>Phyllanthus emblica</i> <i>Sapindus laurifolia</i> | Tree Tree | FruitFruit |

Pharmacology Status of the Identified Plants

The pharmacology status of the identified plants was determined individually for each disorder and has been discussed as under:

Aches and Pains: The plants possessing anodyne and antibacterial properties were found to be used to treat aches and pains. The effect on bacteria reduces infection thus leading to reduction in pain. The anodyne property helps to relieve pain even when not caused by some infection. Kaur (2003) also reported the use of *Margosa* during pre and post maternal care for reducing swelling and preventing infection.

Table 2: Pharmacological status of plants used for aches and pains

| Properties | Action |
|----------------|------------------------------|
| Anodyne | Relieves pain |
| Anti bacterial | Prevents bacterial infection |

Eye Infection: Eye problems are generally related to infection. Hence plants having properties for prevention and cure of infections, found use for problem. Besides, infection becomes a major source of irritation, burning sensation, swelling and pain of the eyes. To provide relief, the plants reportedly used were found to be ophthalmic, refrigerant and anti-inflammatory in nature. The anodyne effect provided relief from pain.

Table 3: Pharmacological status of plants used for eye infection

| Properties | Action |
|-------------------|---------------------------------|
| Ophthalmic | Relieves and removes irritation |
| Refrigerant | Provides coolness |
| Antiseptic | Prevents infection |
| Anti inflammatory | Reduces swelling |
| Anodyne | Relieves pain |

Fever: The reported plants were found to have anti-periodic and antiviral properties which were effective in preventing regular occurrence of fever due to viral infections and malaria. The anodyne property being instrumental in providing relief from pain proved effective in fever. Being good appetizers the identified plants helped to increase appetite, which usually gets effected due to bad taste of mouth during and after fever. Punia and Chhikara (1999) reported the use of tea prepared by boiling of *Scared basil* and *Chebulic myrobalan* for the treatment of fever in Haryana villages.

Table 4: Pharmacological status of plants used for fever

| Properties | Action |
|---------------|---|
| Anti periodic | Avoid regular recurrence of fever |
| Anti viral | Prevents malaria and intermittent fever |
| Anodyne | Relieves pain |
| Appetizer | Increases appetite |

Weakness: The plants reported to be used for overcoming the weakness had properties which were effective in rejuvenating the body cells, toning the body and stimulating its metabolism. Being nutritious in nature, they were useful in providing nutrition to the body and thereby strengthening it. Kaur (2003) reported the use of *Satavar* for providing strength. Kaur (1999) found that Almond Milk called '*Dudh*' was given as a post delivery food. This was prepared by soaking almond overnight, then removing the skin of the kernel and grinding the almonds. The paste of almonds mixed with a glass of cold milk was considered a tonic and nutritious for the body.

Table 5: Pharmacological status of plants used for weakness

| Properties | Action |
|---------------|----------------------------|
| Rejuvenating | Rejuvenates the body cells |
| Anodyne | Relieves pain |
| Nervine tonic | Tones up the nerves |
| Tonic | Tones up the nerves |
| Stimulant | Stimulates body metabolism |
| Thermogenic | Provides strength to body |
| Nutritious | Provides nutrition to body |

Boils and Wounds: The antiseptic and alexiteric properties of the *Margosa* proved effective for treating boils and wounds as it kills microbes and prevents further infection. The vulnerary properties of this plants help in quick healing of the wound. The depurative nature found use in purifying blood and controls the further eruptions of boils and wounds.

Table 6: Pharmacological status of plants used for boils and wounds

| Properties | Action |
|-------------|--|
| Anti septic | Kills and controls pathogenic microbes |
| Alexiteric | Prevents infection |
| Vulnerary | Promotes healing |
| Depurative | Purifies the blood |

Venkata and Fuezele (1995) identified the indigenous knowledge practices in animal husbandry in the state of Andhra Pradesh. The findings of the study show that the herb *Kupaimeri*

(*Aealtpa Indica*) when grounded with Margosa and Turmeric and applied in the paste form proved to be effective for eczema and skin diseases. The use of Margosa leaves, fruits, oil was widely practiced for treating of maggot, wounds and pox virus. Turmeric and Margosa as reported by Ramtirath (2003) were known to rural women for preventing infection, control of skin diseases, softening of skin and purification of blood.

Hair Fall: The hair fall is generally caused due to poor health or some infection. Poor maintenance as a result of un-cleanliness is also one cause of hair fall. Therefore the use of Indian gooseberry and Soapnut tree fruits was made as they are Alexiteric in nature besides acting as stimulants for hair growth and their blackening. They are astringent and demulcent in nature. The cleanser property helped in cleaning the hair bringing shine to them.

Table 7: Pharmacological status of plants used for hair fall

| Properties | Action |
|---------------|----------------------------------|
| Astringent | Provides cooling effect |
| Trichogenous | Stimulates growth and blackening |
| Alexiteric | Prevents infection |
| Demulcent | Soothes the skin |
| Cleanser | Cleans and brings shine |
| Hair restorer | Restore the growth |

CONCLUSION AND RECOMMENDATIONS

Indigenous knowledge was conceptualized by Wang (1988) as the sum-total knowledge and practices which are based on people accumulated experiences in dealing with situations and problems. The general health related problems are very common and their prevention and care can be effectively done at the household level through indigenous practices involving the use of plants possessing medicinal properties. The identified plants have been found to possess properties which make them effective in preven-

tion and cure of simple problems. Borthakur 1992 reported the use of thirteen plant species for the treatment of worm infestation in children and twenty one species during menstruation, pregnancy and child birth. As the use of these plants has been time tested, the dissemination of information and knowledge regarding their properties and use in prevention and cure health related problems can go a long way in increasing their use and also in preserving the wealth of indigenous knowledge. There enhanced use can be a step towards reduction in resources spent on other forms of medication. The plantation of plants possessing medicinal properties both at household and commercial level can help to ensure their availability for indigenous use in health care practices.

REFERENCES

- Atte DO 1992. Indigenous local knowledge as a key to local level development. *DCR Bulletin*, 74: 11.
- Borthakur SK 1992. Native phytotherapy for child and women diseases of Assam in north-eastern Indian. *Fitoterapia*, 63: 483-488.
- Hedge N 1996. Neem for all. *Yojana*, 40: 29-30.
- Kaur T 1999. *Scientific Validation of Indigenous Homestead Practices for Use by Rural Home Makers*. Ph.D. Thesis, Unpublished. Ludhiana: Punjab Agricultural University.
- Paul S, A Ramanathan 2002. Conservation of rural biodiversity through indigenous knowledge. *Kurukshetra*, 50: 3-7.
- Punia S, S Chhikara 1999. Zonewise adopted health practices in rural Haryana. *Indian Journal of Social Research*, 40: 181-86.
- Kaur Ramtirath 2003. *Awareness and Use Pattern of Documented Indigenous Food Sources for Pre and Post Delivery Care*. M.Sc. Thesis, Unpublished. Ludhiana: Punjab Agricultural University.
- Venkatasubramanian V, RM Fuezele 1995. Indigenous knowledge and practices in animal husbandary. *Interaction*, 12: 112-24.
- Vatsyayan R, Shiromni 2002, Anar; Fruit and Medicine. *Health Tribune*, April 17, 2002 P. 13.
- Wang G 1998. Indigenous communication system in research and development. *Journal of Ext System*, 4: 76-78.