

EXPECTORANTS EXTRACTED FROM PLANTS BY LOCAL FOLKLORE OF NORTH EASTERN TARAI BELT OF GORAKHPUR REGION, U.P. INDIA

K. SUNITA, P. ABBASI,* AND MALVIKA SRIVASTAVA

Department of Botany, DDU Gorakhpur University, Gorakhpur

*St. Andrew's College, Gorakhpur

E-mail parveenabbasi@yahoo.com

Today the mankind is reeling under the pressure of the side effects of allopathic medicines. All the developing countries have realized the value of natural and herbal medicines. This north eastern Tarai region of Gorakhpur is very rich and diverse in vegetation. So is the richness of its folklore. Attempt has been made to enlist all the medicinally useful plants which are being used as expectorants from time immemorial by the local people.

Key words: Allopathic medicine, ethnobotany, expectorant, side effects.

The history of medicine and surgery dates back perhaps to the origin of the human race. Herbal medicine is the oldest form of healthcare known to mankind. Primitive man observed and appreciated the great diversity of plants available to him. Much of the medicinal use of plants seems to have been developed through observation and by trial and error. As time went on, each tribe added the medicinal power of herbs in their knowledge base. They methodically collected information on herbs and trees and developed well defined herbal medicines. India being the native of more than 15,000 species of higher plants provides greater potential for exploring the possibilities of therapeutic or medicinal value of various plants.

Apart from the written, complete or incomplete records ancient medicinal herbs, some knowledge on the subject has also descended through generations, and has survived through times among the present day primitive societies *i.e.* among the aboriginal tribes living in the remote forest areas. This knowledge has come through oral folklore. These studies are now classified as specialized branch as Ethnobotany. Various workers worked upon the tribal medicines. [Jain (1965)

on Bastar, Rawat and Pangtey (1987) on Alpine region of Kumaon, Tomar and Singh on Baghat and Khatauli in 2005 and 2007, respectively]

MATERIALS AND METHODS

Gorakhpur enjoys rich vegetation because of fertile soil and heavy rain fall. The district comprises 19 blocks.



The survey for folk medicinal plants



1- *Acorus calamus*



2- *Aegle marmelos*



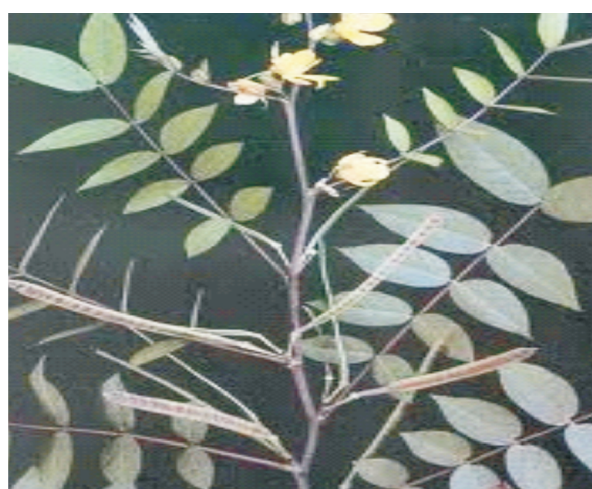
3- *Argemone maxicana*



4- *Bauhinia variegata*



5- *Calotropis procera*



6- *Cassia occidentalis*



7- *Cassia tora*



8- *Crinum asiaticum*



9- *Cordia mixa*



10- *Ocimum bacilicum*



11- *Terminalia arjuna*



12- *Sesamum indicum*

was conducted from March 2009 to March 2010 in villages. After the survey 48 medicinal plant species used as expectorant were found noteworthy. During field trips, informations were collected on the basis of personal interviews, with village people and common people, who have knowledge about folk medicine. Oral interviews were held in villages and new information was recorded on the spot and medicinal plant was collected. Their preservation in herbaria and technique for the collection of ethnomedicinal information was followed as recommended by Jain and Rao 1976 and Rao 1989. Some plant species were identified with the help of Flora [Hooker (1872-1897): Duthie (1903-1929):]

The process of preparation of medicines is listed below as told by the local people:

Concoction:

All the medicine containing parts are mixed (44 gms) and boiled in 700 ml of water in an earthen pot. The solution is reduced up to 80 to 90 ml. Now it is filtered and mixed with sugar, milk or Jagury

Decoction

First of all the plant part is ground into powder, hot water is added and kept for 2 hours in earthen or glass pot, filtered and the filtrate is used. If cold water is used it should be kept for 12 hours. Honey may be added.

Leaf juice

Leaves are ground and filtered, the filtrate is utilized as expectorant.

RESULTS

Folk medicinal plants are enumerated alphabetically with their botanical and vernacular names, families and ethnomedicinal uses.

Abrus precartorius Family- Fabaceae: Ratti or Gunja

1 to 5 gms root concoction is used in chronic cough

Achyranthes aspera Family Amaranthaceae: Latjeera/Chirchita

Leaf ash is mixed with honey and taken 1-2 gm daily.

Acacia concinna Family- Fabaceae (Mimosae): Shikakai

22-44 gms pods decoction is used for thinning the cough and consequently facilitating the removal of cough.

Acorus calamus Family-Araceae: Bach

A part of rhizome taken in mouth facilitates cough. For children it is mixed with water the amount should be less as it may cause vomiting.

Adhatoda vasica Family-Acanthaceae: Arusa

Leaves of *Adhatoda*, *Terminalia*, *Vitis vinifera* are taken in equal amount for making decoction. Sometimes leaves are mixed with ginger juice and honey it is also effective.

Aegle marmelos Family-Rutaceae: Bel

Fresh leaf juice is effective in cough and fever.

Argemone mexicana Family-Papaveraceae: Satyanashi/Bharbhar

½ to 1 gm root powder mixed with hot water or milk is effective.

Bauhinia variegata Family-Fabaceae: Kachnar

Decoction is made from flower buds and mixed with honey for use in cough.

Calotropis procera Family-Asclepiadaceae: Madar

Leaf latex is used 2-3 drops mixed with sugar and black grapes. It controls dry cough.

Cassia occidentalis Family-Fabaceae: Bari kasondi/Bara chakwar

1-3 gms seed powder mixed with equal amount of hot water is taken thrice a day for releasing cough.

Cassia tora Family-Fabaceae: Chhota chakwar /Chhoti kasondi

1-3 gms of seed powder is used.

Cordia myxa Family-Boraginaceae: Lasora

Fruits are boiled and filtrate is taken in severe cold and cough.

Crinum asiaticum Family-Amaryllidaceae:
Phunkna

Leaf juice is utilized with honey. If it is used for children it may cause vomiting sometimes.

Euphorbia antiquorum Family-Euphorbiaceae:
Thuar

Latex is mixed with gud and taken for dry cough.

Euphorbia hirta Family-Euphorbiaceae:
Dudhi

Juice of the whole plant is effective expectorant.

Euphorbia nerifolia Family Euphorbiaceae
Sehund

Leaf juice is effective.

Helianthus annuus Family Asteraceae:
Surajmukhi

Leaf juice is effective. Fresh leaf juice mixed with aesaphoetida releases chest congestion.

Ipomea turpetum family Convolvulaceae:
Tidhara

Leaves have expectorant quality.

Leucas cephalotes Family Lamiaceae: umma

In cough and fever leaves are crushed and juice is taken with honey.

Loranthus longiflorus Family Lorant-haceae:
Banda

If the chest congestion is due to heart trouble or Tuberculosis and there is difficulty in breathing the flowers of this plants are taken.

Mangifera indica Family Anacardiaceae: Aam

Leaves are crushed and juice is taken with honey.

Momordica dioca Family Cucurbitaceae:
Barijh Kakora

1-3 gms of leaves are effective.

Morus indica Family Moraceae: Shahtut

Fruits are made into sherbet and then taken for chest congestion.

Murraya paniculata Family Rutaceae: Madhu kumari or Madhumatti

Root bark is used in cough.

Nyctanthes arbor-tristis Family- Oleaceae:
Harsingar

Stem bark is used in cough and respiratory problems (3-4gms)

Ocimum bacilicum Family- Lamiaceae:
Jangali Tulsi

Leaf juice is used mixed with honey.

Ocimum sanctum Family Lamiaceae: Kali Tulsi

Leaf extract is used as expectorant

Oroxylum indicum Family-Bignoniaceae:
Talwar phali

Root bark,leaves and flowers are used.

Peucedanum graveolens Family-Lamiaceae:
Soya

Fruit extract is used to release cough.

Piper longum Family-Piperaceae: Pipar

Honey Ghee,Milk,white Mishri and Piplee leaves are crushed and mixed properly and taken twice a day.

Pongamia pinnata Family-Fabaceae:
Putikaranj

In whooping cough the seeds crushed in water or boiled are very useful.

Portulaca oleracea Family-Portulacaceae:
Loni / Kulpha

Leaves, stems and whole plants may be used (5cc)

Psoralea corylifolia Family-Fabaceae:
Bakuchi

Seeds are used. (1-3gms)

Salmaalma malabarica Family-Bombacaceae:
Semar

Leaf,bark,fruits etc are used.

Sapindus trifoliatus Family-Sapindaceae:
Reetha

Fruits are used

Sesamum indicum Family-Pedaliaceae: Til

Leaves, seeds and flowers are used.

Solanum indicum Family-Solanaceae:
Bhatakatarari

Androecium of flowers are taken and mixed with honey is used in general cough.

Solanum nigrum Family-Solanaceae: Makoy

Leaves and fruits are utilized.

Solanum surattense Syn. Solanum xanthocarpum Family-Solanaceae: Bhatkateri

Plant roots decoction is mixed with decoction of *Tinospora cordifolia*. It is very effective in treating general cold and cough.

Spinacia oleracea Family-Chenopodiaceae:
Palak

Concoction of whole plant and seeds is useful in the congestion of throat, lungs and lower respiratory tract

Terminalia arjuna Family-Combretaceae:
Kahua

Stem bark is boiled and taken in cough.

Terminalia bellerica Family-Combretaceae:
Bahera

Fruits are soaked in water or fruit coat is roasted and taken orally is useful in cough.

Tinospora indica Family-Menispermaceae:
Giloy

Leaf juice is very effective. In chronic cough the stem is boiled and taken with honey.

Tylophora indica Family-Asclepiadaceae:
Damajari

Whole plant, (roots and leaves) with mulathi and ghorwatch are crushed and mixed. This mixture is very effective.

Urginia indica Family-Liliaceae: Banpyaji

Bulbs are used in facilitating the removal of cough.

Vitex negundo Family-Verbenaceae:
Nirguri/Nirgundi

Leaf juice is used in cough and inflammation of pulmonary membrane. Sometimes plant concoction mixed with *Piper longum* increases the intensity of action.

Zingiber officinale Family-Zingiberaceae:
Adrakh

Rhizome juice is mixed with sonth, black pepper and *Piper longum* and paste is made. Rock salt is added. This mixture is used for gargle if the throat is also sore.

Zizyphus vulgaris Family-Rhamnaceae: Ber

Seed cotyledons are taken out and crushed to powder and mixed with milk, curd.

DISCUSSION:

During the course of field survey 48

plants were found to be having medicinal properties. These plants are used by rural and common people for treatment of cough and cold. The process of their utilization and consumption was taken from the local people. The methods of making preparations of various plant parts are also collected from the folklore. All the plants listed above are having expectorant properties i.e. loosening and releasing of cough and in facilitating respiration.

The study shows that medicinal plants are going to play an important role for future in social health system. These medicinal plants are prepared in crude form; however these are reliable up to some extent and believed to strengthen the immune system.

The practice of indigenous traditional knowledge and its application are still alive in different tribal colonies of study area. People use these plant day to day in unspecialized manner due to their household demands. However it is alarming that the indigenous knowledge and practices are gradually disappearing day by day. Hence it is necessary to document these useful plants and their therapeutic uses before they are lost forever from the community.

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