

Traditional Remedies of Respiratory Disorders from Assam, India

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Abstract

Assam, the home land of diverse ethnic groups with varied traditional knowledge, has a long and living tradition of uses of herbs for health care needs. Rural people have deep belief, rely and dependent on local traditional medicine for various ailments including respiratory diseases. The present paper deals with 39 plant species used in different ways with some 50 empirically accepted prescriptions for the treatment of various respiratory diseases recorded from the state.

Key words: Traditional medicine; Ethnobotany; Respiratory diseases; Assam.

INTRODUCTION

Assam, one of the states of “nature’s treasury” northeast India is the home land of diverse ethnic groups, migrated there since time immemorial. These people living there in harmony together with the nature that has enriched the traditional knowledge on natural resources of the land.

About 80% of the population of the state resides in rural areas, and these people by and large are still dependent on natural resources around them for their sustenance including their health care. In fact, people of these rural and remote localities afflicted by various ailments including respiratory diseases invariably approach local traditional medicine-men. It has also been observed that in recent years an ever increasing number of people of urban localities of the state are turning towards effective alternative system of medicine, particularly the local traditional herbal medicine for treating their diseases, though modern medical facilities are to be their reach.

In recent years some ethnobotanical and ethnomedicinal reports of Assam have been appeared (Bhattacharjee *et al* 1980; Boissya & Majumdar 1980; Borthakur 1976, 1981, 1992, 1996; Borthakur *et al* 1996, 1998, 2004; Das & Saikia 2002; Gogoi & Borthakur 2001; Hajra & Baishya 1991; Nath 2001; Sarma *et al* 2002); but so far no comprehensive account on the traditional treatment of respiratory disorder is available from the state. Realizing the present scenario and prospect an extensive study was conducted during ethnobotanical survey in different areas of the state.

MATERIALS AND METHODS

The present paper deals with herbal preparations used in treating various respiratory disorders by traditional curers of different ethnic groups of Assam. Field studies were conducted to collect information on the uses of herbal medicines following the methodology as suggested by Jain (1987). Field visits were made along with local medicine-men to spot the specimens in the field and to know their local names. The data collected were further verified and cross checked in different villages with other local traditional medicine-men. Voucher specimens were prepared following standard herbarium techniques (Jain & Rao 1977). All the plants dealt with along with relevant

information, and deposited in the Herbarium of Botany department, Gauhati University, Guwahati. Specimens were identified either by consulting literature and/or by consulting herbaria like ASSAM and the Herbarium of Botany Department, Gauhati University.

ENUMERATION OF ETHNOMEDICINAL PLANTS

Collected ethnomedicinal information and uses are presented with botanical names of the plants arranged alphabetically, followed by their families in parentheses and local names in Assamese.

Allium sativum L. [Liliaceae]; Local name: *Naharu*

100 gm garlic cloves pounded with 250 gm of sugar and heated. After cooling down it is prescribed in whooping cough (one teaspoonful for adults and half a teaspoonful for children twice daily for a fortnight).

Allium tuberosum Rottl. ex Sprengel (Liliaceae); Local name: *Ban-naharu*.

Bulb pounded with equal parts of rhizome of *Costus speciosus* (Koen. ex Retz.) J.E. Smith and given in whooping cough (twice daily till cure; one teaspoonful mixed with a little goat milk on empty stomach in the first dose and one teaspoonful mixed with equal part of fruit juice of *Punica granatum* L. as second dose in a day).

Alstonia scholaris (L.) R. Brown (Apocynaceae); Local name: *Chatian*.

Latex mixed with cow's milk and given in asthma (two teaspoonfuls of latex in 100 ml of milk, once daily for three weeks).

Areca catechu L. (Arecaceae); Local name: *Tamol*.

*Decoction of root with bark of *Albizia lebbek* (L.) Willd., root of each of *Citrus medica* L. and *Piper longum* L., rhizome of *Zingiber officinale* Rosc. and leaf of *Justicia adhatoda* L. in equal parts is administered in asthma (four teaspoonfuls, thrice daily for a month or even more if required).

Aristolochia indica L. (Aristolochiaceae); Local name: *Iswarmul*

Root juice mixed with juice of ginger in equal parts with a pinch of each of black and long pepper is given in asthma and also in whooping cough of children (one teaspoonful, twice or thrice daily for three weeks).

Bacopa monnieri (L.) Pennel (Scrophulariaceae); Local name: *Brahmi*.

Juice of shoot and leaf is given in bronchitis to infants and children (three teaspoonfuls, twice or thrice daily for a fortnight).

Basella alba L. var. *rubra* (L.) Stewart (Basellaceae); Local name: *Pui-sak*.

*About 10 ml leaf juice mixed with 25 ml root juice of *Clitoria ternatea* L., a little water and goat's milk is given in whooping cough (thrice daily for a fortnight).

Boerhavia diffusa L. (Nyctaginaceae); Local name: *Punounouwa*.

Root Pounded and given in asthma (10 gm thrice daily for three weeks). However, some medicine-men prescribed the powdered dry root.

Calotropis gigantea (L.) R. Brown ex Aiton (Asclepiadaceae); Local name: *Akon*.

Powder of root bark mixed with fresh latex of the plant and smoked like tobacco in asthma (once or twice daily to reduce the severity of attack).

One dry leaf is pounded with about 10 gm each of black pepper, fruit bark of *Sapindus mukorssi* Gaertn. and common salt made into pills of about 3 gm each and are given in cough and breathing trouble (one or two pills, twice daily for 7 to 10 days).

Canavalia gladiata (Jacquin) DC. (Fabaceae); Local name: *Kamtal-urahi*.

Root juice is given in asthma (two teaspoonfuls, with a pinch of common salt, twice daily for a fortnight or more).

Citrus grandis (L.) Osbeck (Rutaceae); Local name: *Robab tenga*.

Decoction of root mixed with common salt is given in cough and bronchial trouble (four teaspoonfuls, once daily on empty stomach in the morning for three weeks).

Root juice is given to get relief from cough and bronchitis (three teaspoonfuls, twice or thrice daily for a week).

Citrus indica Tanaka (Rutaceae); Local name: *Jora-tenga*.

* Root Pounded with roots of *Alstonia scholaris* (L.) R. Br., *Justicia adhatoda* L., *Solanum surattense* Burm.f., *Capsicum annuum* L., *Entada pursaetha* DC. and *Heliotropium indicum* L., black and long pepper in equal parts, made into pills of about 5 gm each and given in asthma (two pills, thrice daily for three weeks).

Clerodendrum indicum (L.) O. Kuntze (Verbenaceae); Local name: *Akol-bih, Akal-bir*.

Root juice is given in asthma (two teaspoonfuls, twice daily regularly for a month).

Clitoria ternatea L. (Fabaceae); Local name: *Aparajita*.

Root juice is given in whooping cough (two teaspoonfuls, thrice daily for a fortnight).

Curcuma longa L. (Zingiberaceae); Local name: *Halodhi*.

Rhizome powder mixed with cow's milk is given in bronchitis (one teaspoonful of powder mixed with 200 ml of milk in a dose twice daily for three weeks).

Dactyloctenium aegyptium (L.) P. Beauverd (Poaceae); Local name: *Bobocha-ban*.

Decoction of culm with bark of *Terminalia arjuna* (Roxb.) Wt. et Arn. in equal quantities is given in asthma of children (20 ml, thrice daily for two to three months).

Datura metel L. (Solanaceae); Local name: *Boga-dhatura*.

Dried leaf powder is smoked in asthma.

Seed paste is given in asthma with goat's milk (5 gm paste in 250 ml of milk, once daily for a week or more).

Desmostachya bipinnata Stapf (Poaceae); Local name: *Kush-ban*.

Root pounded with root of *Imperata cylindrica* (L.) P. Beauv., *Phragmites karka* (Retz.) Trin ex Steud., *Saccharum officinarum* L. and *S. spontaneum* L. in equal parts is used as diuretic and also given in dysuria, hematuria and disorder of the three humours of the body (commonly known as 'Tridosh') namely blood, bile and phlegm (five teaspoonfuls, twice or thrice daily till cure).

Euphorbia ligularia Roxburgh (Euphorbiaceae); Local name: *Siju*.

Latex mixed with latex of *Jatropha curcas* L., stem of *Tinospora cordifolia* Miers. and honey in equal parts is given in asthma (one or two teaspoonfuls, twice daily for a month).

Hibiscus rosa-sinensis L. (Malvaceae); Local name: *Joba*.

*Bark extract mixed with paste of roasted leaves of *Sansevieria roxburghiana* Schult.f., seed of *Luffa acutangula* (L.) Roxb. and bark of *Litsea salicifolia* (Roxb. ex Nees) Hook.f. in equal parts is given in asthma (about 20 gm, twice daily for a month).

Justicia adhatoda L. Acanthaceae; Local name: *Bahok, Boga-bahok*.

Leaf juice mixed with rhizome extract of *Zingiber officinale* Rosc. In equal parts and a little common salt is given in asthma (10 ml, once daily for three to four weeks). Same recipe is also given in whooping cough of children (one teaspoonful, twice daily for a fortnight).

Leaf juice mixed with juice of leaf of *Ocimum sanctum* L., and *Leucas plukenetii* (Roth.) Spr., and honey in equal parts is administered in whooping cough (twice daily for a fortnight).

Leaf juice mixed with bark powder of *Terminalia arjuna* (Roxb.) Wt. et Arm. in 3:1 ratio is dried, powdered and is given in chronic bronchitis (one teaspoonful with honey, twice daily for six weeks).

Leaf juice is given in bronchitis (20 ml, twice daily for a month).

Leucas aspera (Willdenow) Link (Lamiaceae); Local name: *Dron*.

Leaf juice mixed with that of leaves of *Ocimum sanctum* L. in equal parts and a little honey is given in whooping cough (two teaspoonfuls, twice or thrice daily for nine days).

Litsea salicifolia (Nees) Hook. f. (Lauraceae); Local name: *Digh-lati*.

*Bark powder mixed with powder of seed of *Luffa acutangula* (L.) Roxb. in equal parts is given in asthma (four teaspoonfuls mixed with water, twice daily for a month).

Mimosa pudica L. (Mimosaceae); Local name: *Lajuki-lota*.

*Decoction of whole plant is given with honey in asthma (about 20 ml, twice daily for a month).

Morinda angustifolia Roxburgh (Rubiaceae); Local name: *Daru-haridra, Anchu-gach*.

*Leaf pounded with root of *Solanum torvum* Sw., *S surattense* Burm.f. and *Nelumbo nucifera* Gaertn., leaf of *Trichosanthes dioica* Roxb., and nut of *Pistacia chinensis* Bl. in equal parts and the extract is given in asthma and bronchial trouble (four teaspoonfuls, twice daily till cure).

Musa balbisiana Colla. (Musaceae); Local name: *Bhim-kal, Athia-kal*.

Alkali solution prepared from the ash of dried and burnt rhizome and fruit bark mixed with mustard oil is given in cough (about 15 ml, twice daily till cure).

Ocimum basilicum L. (Lamiaceae); Local name: *Ban-tulashi*.

Leaf juice or paste mixed with honey is given in cough and bronchial congestion (about 5 gm in 10 ml of honey, twice daily for a week).

Decoction of leaf is administered in hiccup (three teaspoonfuls, twice daily for three days).

Ocimum sanctum L. (Lamiaceae); Local name: *Tulashi*.

Leaf crushed with leaf of each of *Tinospora cordifolia* Miers. and *Solanum surattense* Burm.f., and root of *Clerodendrum indicum* (L.) O. Kuntze in equal parts; the extract mixed with a little powdered long pepper is given in cough and bronchitis (two or three teaspoonfuls, thrice daily for three to seven days).

Phlogacanthus tubiflorus Nees (Acanthaceae); Local name: *Ranga-bahak*.

Decoction of bark is given in asthma (four teaspoonfuls, twice daily for a fortnight or even more if required).

Leaf powder is smoked in asthma.

Phyllanthus emblica L. (Euphorbiaceae); Local name: *Amlokhi*.

Root juice is given in bronchial asthma (25 ml daily for a month).

*Root pounded with that of *Citrus grandis* (L.) Osb. and rhizome of *Zingiber officinale* Rosc. in equal parts, fruit of *Terminalia chebula* (Gaertn.) Roxb. 5 nos., and a small amount of rock salt is given in bronchial asthma (about 50 gm, twice daily for a month).

Piper longum L. (Piperaceae); Local name: *Pipoli*.

Decoction of fruit is given in bronchitis (four teaspoonfuls, twice daily till cure).

Fruit pounded with ginger, black pepper in equal parts and a little common salt, made into pills of about 5 gm each and is given in cough (one pill, thrice daily till cure).

Sapindus mukorssi Gaertner (Sapindaceae); Local name: *Haitha, Manichal*.

Bark pounded with black pepper, leaf of *Calotropis gigantea* (L.) R.Br. ex Ait. in equal parts with a little rock salt and made into pills of about 10 gm each, which are administered in hooping-cough and asthma (three pills, thrice daily for 3 to 15 days or more).

Solanum torvum Swartz (Solanaceae); Local name: *Tita-bhekuri*.

Fruit boiled and given in bronchial asthma (about 10 – 12 fruits daily for a month).

Stephania glandulifera Miers (Menispermaceae); Local name: *Gunraj*.

*Powder of tuber mixed with honey is given in asthma (about 2 gm with one teaspoonful of honey, twice daily for a month).

Terminalia arjuna (Roxb. ex DC.) Wt. *et* Arn. (Combretaceae); Local name: *Arjun*.

Decoction of bark is given in asthma (five teaspoonfuls, twice daily for a fortnight).

*Bark powder mixed with leaf juice of *Justicia adhatoda* L. in the proportion of 1:5 and again dried under sunlight, about 2 gm of this preparation mixed with little honey and palm-candy is given once daily in chronic bronchitis till cure.

Terminalia bellirica (Gaertner) Roxburgh (Combretaceae); Local name: *Bhomora*.

Pounded cotyledons mixed with little hot water is given in common cold, and asthma (about 5 gm, thrice daily till cure).

Trigonella foenum-graecum L. (Fabaceae); Local name: *Methi*.

Infusion of seed powder is given in bronchitis and influenza (five teaspoonfuls, once or twice daily till cure).

Zingiber officinale Roxburgh (Zingiberaceae); Local name: *Aada*.

Juice of rhizome mixed with leaf juice of *Ocimum basilicum* L., *Leucas plukenetii* (Roth.) Spr., and *Justicia adhatoda* L. (10 ml each) is given to control bronchitis (twice daily till cure).

Zanthoxylum nitidum (Roxburgh) DC. (Rutaceae); Local name: *Tezmui*, *Tezamaya*.

*Root pounded and made into paste with one or two cloves, shoots of *Ocimum basilicum* L. and a little common salt is given in asthma (5 gm, twice daily for a month).

DISCUSSION

It is observed that bronchial asthma, Bronchitis, Whooping cough and Pneumonia are the commonly prevalent respiratory diseases in Assam. Though Asthma, Bronchitis attacks can be treated or prevented by a variety of modern drugs, in most cases these recur frequently or periodically and, as a result affected people suffer a lot. The rural people in fact prefer effective traditional medicines. The present paper deals with 39 plant species used in different ways with some 50 empirically accepted prescriptions for the treatment of various respiratory diseases in Assam. Though some of the plants encountered in the present study are well known medicinal plants, used for different respiratory and other diseases, knowledge on usage of some are seem to be less known or not widely known or hitherto unknown, specially for respiratory diseases (Jain 1991, Kirtikar & Basu 1935). These uses are marked with asterisk (*). So there is an urgent need of in-depth ethnomedicinal and critical study for evaluating their efficacy, which may lead to the discovery of new active compounds for the welfare of humankind. The lore of traditional knowledge of the state need an urgent attentions as these are fast disappearing.

Acknowledgement

The authors are grateful to the local traditional medicine-men, women and some elderly knowledgeable persons of the remote villages of the state of Assam for their help and cooperation

during field studies. They are also thankful to Dr. N. Rajkhowa, Government Medical & Health Officer, Mangaldai for identification of diseases and authentication of pharmacological terminologies.

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