

Folk remedies used against respiratory disorders in Jalgaon district, Maharashtra

Garima G Patil¹, Prashant Y Mali² and Vijay V Bhadane^{3*}

¹C 2/16, MERI Quarters, Dindori Road, Nasik -422 004, Maharashtra, India

²Smt. S. S. Patil, College of Pharmacy, Chopda-425107, Maharashtra

³Centre for Post-Graduate Studies and Research in Botany, Pratap College, Amalner-425401, Maharashtra

* Correspondent author, E-mail: bhadanevv@rediffmail.com

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Abstract

Information on 56 plant species used especially for the treatment of respiratory diseases by rural and tribal communities of Jalgaon district, Maharashtra is given in this paper. The paper reveals utilization of 55 species of flowering plants belonging to 34 genera comprising of 34 families and one fern species. Of these, 32 families are of dicotyledons, 2 of monocotyledons and 1 of pteridophytes. Brief information about the plant parts used, botanical and local names, families and the mode of preparation of drugs and method of applications have been given. As the traditional herbal remedies are based on ancestral knowledge and empiric experiences, this type of ethno-medicinal survey appeared to be useful for the research on medicinal plants for the betterment of mankind.

Keywords : Medicinal plants, Folk remedies, Asthma, Respiratory diseases, Jalgaon district, Maharashtra.

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Materials and Methods

The survey of all 13 tehsils of Jalgaon district was conducted during 2000-2006. The desired information regarding plant /plant part(s) used medicinally was collected during field trips on the basis of interview with the tribal and local people. By repeated enquiries, changing the pattern of questioning like showing the plant collected from one tribal healer/ rural people to another of a distinct locality and asking them for its use as medicine and vice-versa. The mode of making the preparation and their application in each case was minutely recorded. Voucher specimens were collected, processed as per routine herbarium methods and identification of collected plant material was done either in the field itself or in laboratory following the district and state floras⁴⁻⁷, given accession numbers and deposited in the Botany Department, Pratap College, Amalner.

Under the enumeration the plant species are arranged in alphabetical order, along with family, local names, place of collection, voucher number and their ethnobotanical information. Vulnerable species found in the area are marked with asterisks mark.

Introduction

Jalgaon district, a part of Deccan plateau is located on northern border of the state of Maharashtra. It lies between 20° and 21° North latitudes, and 74°55' and 76°28' East longitudes. The Satpuda ranges extend to northern region of the district, whereas the part of Western Ghat extends to other areas. The forests in the district are typically dry deciduous type. The major part of the district is predominantly inhabited by rural population. However, in the Raver and Chopda tehsils there are few tribal pockets scattered in this region. The tribal inhabitants like *Bhils*, *Pardhis*, *Pawaras*, *Tadavis*, *Wanjaris* and others form small pockets in this district. These tribal people

use traditional herbal formulations to treat common ailments despite the availability of the modern pharmaceutical drugs in the nearby towns and cities. Except some sporadic reports on some edible and medicinal plants and their uses in floristic studies¹⁻³, the district has largely remained unexplored with regards to its studies on medicinal plants. Considering lack of such reports documentation of traditional medicines and health care system among tribal communities and experienced elderly village people in the Jalgaon district was undertaken. In the present paper 56 plant species used effectively to treat problems related to respiratory system have been discussed in detail.

Enumeration

***Acalypha indica* Linn.**
(Euphorbiaceae, *Kupi, Khokali*),
Mehrun, VVB- 699.

The decoction (10-15ml) of whole plant is given twice daily in acute and chronic bronchitis.

***Achyranthes aspera* Linn.**
(Amaranthaceae, *Aghada*), Jamner, VVB- 29.

Leaves and roots decoction (5-10ml) or infusion (10-15ml) is given 2-3 times daily in asthma.

***Adiantum philippense* Linn.**
(Adiantaceae, *Hansraj*), Pal, GGP-89.

Infusion (10-15ml) of the leaves is given 3-4 times daily in asthma and other respiratory diseases.

***Aegle marmelos* (Linn.) Corr.** (Rutaceae, *Bel*), Chopda, VVB- 76.

Decoction (10-20ml) of the leaves is used once at bed time in asthma and cough.

***Ailanthus excelsa* Roxb.**
(Simaroubaceae, *Ghod-limb*), Amalner, VVB-777.

Stem bark decoction (10-15ml) is given twice daily to rid of asthma.

***Allium sativum* Linn.**
(Liliaceae, *Lasun*), Pal, VVB- 733.

The tea of garlic (5-7 bulbets) with honey is advised in asthma.

***Alstonia scholaris* (Linn.) R. Br.** (Apocynaceae, *Satvin*), Langada-amba, VVB- 454.

Decoction of stem bark, 5-10ml is given once daily in asthma.

***Amaranthus spinosus* Linn.**
(Amaranthaceae, *Kate-math*), Aasoda, VVB- 220.

Decoction (15-20ml) of whole plant is given thrice daily in allergic bronchitis and asthma.

***Argemone mexicana* Linn.**
(Papaveraceae, *Pivla dhotra, Bilayat*), Raver, VVB- 322.

Infusion of seeds (10g in 1 litre water) used in the dose of one teaspoonful for one cup of boiling water, twice daily for curing asthma.

***Artocarpus heterophyllus* Lam.** (Moraceae, *Phanus*), Pal, VVB-744.

The root bark decoction (10-15ml) is given twice daily in rhinitis and asthma.

***Balanites aegyptiaca* (Linn.) Delile** (Balanitaceae, *Hingan-bet*), Chincholi, VVB- 230.

Seed powder (1g) with jaggery is given twice a day in asthma and other respiratory disorders.



Boerhaavia diffusa



Capparis decidua



Heteropogon contortus



Gloriosa superba



Semecarpus anacardium



Solanum xanthocarpum



Tribulus terrestris



Withania somnifera

Baliospermum montanum (Willd.) Muell. - Arg. (Euphorbiaceae, *Danti*), Yawal, VVB- 611, Amalner, GGP- 96.

The leaves decoction (10-15ml) is given twice daily in asthma.

Bauhinia purpurea Linn. (Caesalpiniaceae, *Rakta-Kanchan, Aapta*), Pal, GGP- 642.

Decoction (10-15ml) of stem bark administered orally twice a day is very effective in asthma and other respiratory disorders as an anti-inflammatory agent.

Boerhaavia diffusa Linn. (Nyctaginaceae, *Dagad-phodhya, Punarnava*), Raver, GGP - 353.

Whole plant decoction (15-20ml) is given twice a day as a very effective medicine in asthma and bronchitis.

Calotropis procera R. Br. (Asclepiadaceae, *Rui, Ruchaki*), Chopda, GGP- 391.

One flower is taken with betel leaf once a day to cure asthma and whooping cough. Flower ash is also given with honey to treat the same.

Capparis decidua (Forsk) Edgrew. (Capparidaceae, *Ker, Nepti*), Amalner, GGP- 322.

The stem bark decoction (10-15ml) is administered twice a day in asthma and other respiratory disorders.

***Centratherum anthelminticum** Kuntze syn. *Vernonia anthelmintica* (Linn.) Willd. (Asteraceae, *Kadu-jire*), Pal, GGP-21.

Infusion of seeds (10-15ml) is given twice a day in asthma, while the seed powder (1g) with jaggery is given once a day for a week in the treatment of common cold, rhinitis and bronchitis.

Chrozophora plicata (Vahl) A. Juss. ex Spreng. syn. *C. prostrata* Dalz. & Gibs. (Euphorbiaceae, *Suryavarta*), Bodwad, GGP- 82.

The ash of root (1.5-2 g) is given early morning daily with lukewarm cow milk in asthma.

Chrysanthemum indicum Linn. (Asteraceae, *Shewanti*), Jalgaon, VVB- 932.

Whole plant decoction (5-10ml) is given 2-3 times a day in asthma, cold and cough.

Cissus quadrangularis Linn. (Vitaceae, *Kandvel*), Khedi, GGP- 98.

The stem decoction (10-15ml) given twice daily in chronic bronchitis as a cure.

***Clerodendrum serratum** (Linn.) Moon. (Verbenaceae, *Bharang*), Umala, VVB- 426.

The root decoction (5ml) is given 3-4 times daily in asthma.

Coleus amboinicus Lour. (Lamiaceae, *Pan-onwa*), Pal, VVB-700.

Juice of leaves (10-15 ml) is given twice daily in asthma and pharyngitis.

Datura metel Linn. (Solanaceae, *Kala-dhatura*), Mehrun, VVB-333.

Leaves are smoked through pipe in asthma attacks.

Daucus carota Linn. (Apiaceae, *Gajar*), Parola, GGP-121.

Raw roots are eaten in asthma and their juice is given in cough.

Eclipta alba (Linn.) Hassk. (Asteraceae, *Maka*), Chopda, GGP-666.

Decoction (10-15 ml) of whole plant is recommended 2-3 times daily for the cure of asthma.

Emblica officinalis Gaertn.

syn. *Phyllanthus emblica* Linn. (Euphorbiaceae, *Avla*), Yawal, VVB-404.

Decoction (10-15ml) of seeds is used twice daily to treat asthma and obstructive bronchitis.

Evolvulus alsinoides Linn. (Convolvulaceae, *Vishnukranta*), Manudevi forest, VVB- 972.

Leaves are made into cigarettes and smoked in chronic bronchitis, bronchiectasis and asthma.

***Fagonia cretica** Linn. (Zygophyllaceae, *Dhamsa*), Umala, VVB-522.

The whole plant decoction (10-15ml) is administered twice a day for the cure of asthma.

Garuga pinnata Roxb. (Burseraceae, *Kakad*), Chopda, VVB-431.

Juice of its leaves mixed with the *Adhatoda vasica* Nees and *Vitex negundo* Linn. leaves juice (5ml, 1:1:1) and honey is given once at bedtime in asthma as bronchodilator and expectorant.

***Gloriosa superba** Linn. (Liliaceae, *Kal-lavi*), Neri, VVB- 444.

Decoction (5-10ml) of tuber is given twice daily in asthma. Paste of tuber is heated and applied on forehead and nose to relieve from sinusitis.

Heteropogon contortus (Linn.) P. Beauv. ex Roem. & Schult. (Poaceae, *Kusali gawat*), Pal, VVB- 339.

Decoction (5-10ml) of inflorescence is given thrice a day in asthma as bronchodilator.

Holarrhena pubescens (Buch.-Ham.) Wall. ex G. Don (Apocynaceae, *Kuda*), Yawal, VVB- 926.

Decoction (about 5ml) of seeds is given twice daily in asthma.

Leucas aspera (Willd.) Link (Lamiaceae, *Tamba*), Nagziri, VVB- 489.

Decoction of whole plant (10-15ml) is given twice daily in asthma and common cold.

***Madhuca indica* J. E. Gmel.** (Sapotaceae, *Moha, Mahu*), Palziri, VVB-627.

Decoction / infusion of flowers (5-10ml) is given 2-3 times a day in asthma and to check cough as an expectorant.

****Mimusops elengi* Linn.** (Sapotaceae, *Bakul*), Pal, 155.

Smoke of flower is inhaled to treat chronic bronchitis.

***Moringa oleifera* Lamk.** (Moringaceae, *Shevaga*), Amalner, VVB- 543.

The decoction of stem bark (5-10ml) is given thrice daily for a week in asthma and other respiratory ailments.

***Nyctanthes arbor-tristis* Linn.** (Oleaceae, *Parijat*), Pal, VVB- 645.

The decoction (5-10ml) of stem bark is administered orally 3-4 times daily to promote the expectoration of thick phlegm.

***Ocimum americanum* Linn.** (Lamiaceae, *Ran-tulasi*), Marwad, GGP- 12.

One teaspoonful-extracted juice of leaves with little honey is given to cure short breath and rhinitis.

***Opuntia elatior* Mill.** (Cactaceae, *Nivdunga*), Amalner, VVB- 91.

Baked fruit is administered internally once in a day for a week in asthma. Mucilaginous juice (10-15ml) obtained from chopped stem is given with honey in asthma.

***Oroxylum indicum* (Linn.) Vent.** (Bignoniaceae, *Tiutun, Tetu*), Yawal, GGP- 723.

The decoction (10-15ml, twice daily) of root bark is given in asthma as bronchodilator.

***Pergularia daemia* (Forsk.) Chiov.** (Asclepiadaceae, *Utaran, Mendhadhudi*), Chincholi, VVB- 222.

The fresh leaf juice (5ml) is given 2-3 times a day in asthma.

***Phyla nodiflora* (Linn.) Greene.** (Verbenaceae, *Jalpimpli*), Muktainagar, VVB- 521.

The decoction (5-10ml) of the whole plant is given 2-3 times a day in asthma. Steam of the same is also inhaled to cure nasal congestion.

***Phyllanthus acidus* Skeels** syn. *Cicca acida* (Linn.) Merr., *C. disticha* Linn., *Phyllanthus distichus* Muell.-Arg. (Euphorbiaceae, *Rai-awla*), Mehrun, GGP-494.

The decoction (10-15ml) of the seeds administered twice daily in asthma and bronchitis.

***Plumeria rubra* Linn.** (Apocynaceae, *Pandhara-champha*), Amalner, GGP- 33.

The decoction (5-10ml) of stem bark is given once at bed time in asthma.

****Pterocarpus marsupium* Roxb.** (Fabaceae, *Bibala, Bija*), Umala, VVB- 770.

Lukewarm aqueous suspension of 2 g gum with jaggery is given early in the morning for a week to treat asthma.

***Rumex vesicarius* Linn.** (Polygonaceae, *Aambat-chuka*), Adawad, VVB-319.

The herb decoction (10-15ml) is given twice daily as an expectorant and in chronic bronchitis.

***Ruta chalepensis* Linn.** (Rutaceae, *Satap*), Takerkhede, VVB- 242.

Leaves are used for fumigation to get relief from asthma and help in expectoration of cough.

***Semecarpus anacardium* Linn. f.** (Anacardiaceae, *Bibba, Bhilav*), Chopda, VVB- 632.

Nut steeped in buttermilk is used internally in asthma.

***Sesamum indicum* Linn. syn. *S. orientale* Linn.** (Pedaliaceae, *Til*), Raver, VVB- 555.

Mixture of seeds of sesame and ***Trachyspermum ammi* (Linn.) Sprague** smoked in as ordinary tobacco pipe takes care of dry cough, asthma and diseases of lungs as well as common cold.

***Sida rhombifolia* Linn.** (Malvaceae, *Atibala, Sahadebi*), Amalner, GGP- 910.

The root decoction (5ml) is given 2-3 times daily in lower respiratory track diseases.

***Solanum xanthocarpum* Schrad. & Wendl.** (Solanaceae, *Bhuiringani*), Amalner, GGP- 121.

Inhaling smoke of dried fruit in asthma and bronchitis gives relief.

***Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.** (Combretaceae, *Arjun-dhawda*), Yawal, VVB-661.

The stem bark decoction (5-10ml) is given twice daily in asthma.

***Terminalia bellirica* Roxb.** (Combretaceae, *Arjun-sadhada*), Pal, VVB- 433.

Decoction of fruit / stem bark (10-15ml) given once daily takes care of asthma.

***Tribulus terrestris* Linn.** (Zygophyllaceae, *Sarata, Gokharu*), Chopda, VVB- 393.

The fruit decoction (5-10ml) is given twice daily in asthma and other respiratory diseases.

***Vernonia cinerea* Less.** (Asteraceae, *Sahadevi*), Nagziri, VVB- 812.

The decoction (5-10ml) of whole herb is given twice daily in asthma and the inhalation of steam of the same relieves from congestion.

***Withania somnifera* Dunal** (Solanaceae, *Askand*, *Ashwagandha*), Jalgaon, VVB- 429.

Decoction of the root (5-10ml) is used twice daily to treat asthma and bronchitis.

Discussion

During the present study it has been observed that most of the plants are common except few vulnerable species like, *Pterocarpus marsupium*, *Clerodendrum serratum*, *Fagonia cretica*, *Gloriosa superba*, *Mimusops elengi*, *Centrathurum anthelminticum*, etc. within the study area.

Although root, bark, stem, leaves and whole plant is used but leaf is the commonest part used in the treatment. Majority of the preparations are used internally in the form of infusion or decoction.

The detailed information regarding the therapeutic application of different plants of 56 plant species were obtained and their role in curing various diseases of respiratory system like common cold, rhinitis, chronic

bronchitis, allergic bronchitis, sinusitis, asthma, etc. and mode of administration by tribal healers, priests and ordinary villagers were compared with available literature in different regions of India on medicinal plants⁸⁻¹⁴. It was found that many of the uses listed are not recorded earlier. It provides deeper insight into the indigenous method of applications and effectiveness of the plant derivatives in treating different ailments of the respiratory system.

Conclusion

Further pharmacological and clinical studies on these plants may provide effective natural medicines for various respiratory disorders.

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