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REVIEW ARTICLE

A CRITICAL REVIEW ON ANTI-ASTHMATIC AYURVEDIC MEDICINAL PLANTS AND COMPOUND FORMULATIONS

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ABSTRACT

Asthma is a chronic inflammatory disease of the airways which caused by reversible airflow obstruction and bronchospasm. In present world a wide number of population are badly being affected due to the cause of this chronic disorder. The main causative factors for bronchial asthma are environmental factors include allergen exposure, infection, air pollution, occupational influence, smoking, genetic factor. In Ayurveda a numbers of medicinal plants have been prescribed by the Acharyas for the managing of this chronic disease. The therapeutic efficacy of those plants has also being verified by using the modern pharmacological experimental models. A few ayurvedic formulations are also being enlisted; they are frequently being prescribed by the ayurvedic physician to treat the asthamatic condition. In the present study all those drugs are precisely described according to their alphabetical order. It is a rich source for anti-asthmatic herbal prescription.

Keyword: *Asthma, Ayurveda, Medicinal plants, Formulations.*

INTRODUCTION

Asthma is an ancient Greek word meaning 'panting or short drawn breath'. It is the most troublesome of the respiratory diseases, causing chest tightness, recurring periods of wheezing, shortness of breath and coughing. Patients suffering from asthma to be gasping for breathe facing obstruction to inspiration and expiration due to bronchospasm (Holgate *et al.*, 2010; Murphy and O'Byrne, 2010). The international programs for Asthma divides risk factors for asthma into host factors and environmental factors. Host factors include genetic predisposition, gender, race and obesity (Zhang *et al.*, 2008; Almqvist *et al.*, 2008; Erickson *et al.*, 2007; Gelfand *et al.*, 2014). Environmental factors consist of certain allergen viz. dust, pollan grain, infection, air pollution, professional influence, smoking, living environment, diet and socioeconomic status (Patel and Miller, 2009; Litonjua *et al.*, 2008). Prevalence of chronic airway diseases is still constantly increasing (Baiz and Annesi-Maesano, 2012), Bronchial asthma is one among them affects more than 5% of the population worldwide (Anonymous, 2006). Currently more than 300 million people are suffering from chronic airway inflammatory disease asthma worldwide and may reaches up to 400 million by 2025 (Bousquet *et al.*, 2005). India has an estimated 15-20 million asthmatics. In India, rough estimates indicate a prevalence of between 10% and 15% in 5-11year old children (WHO, 2013). Prevalence of adult's asthma is 2.7 to 4.0% in most European countries, 12.0% in England, 8.2% in US, 9.5 to 17.9% in Australia and 2.38% in India. (Akinbami and Liu, 2011; Aggarwal *et al.*, 2006). Asthma is a complex inflammatory disease of lower respiratory tract involves interactions between anumber of inflammatory cells, inflammatory mediators, airway epithelium, bronchial smooth muscle and the nervous system. Inflammation involves oedema, infiltration eosinophils, mast cells, macrophages, activated T lymphocytes,

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cytokines and other inflammatory cell products (Elias *et al.*, 2003; Lukacs, 2001) disruption and detachment of the epithelial layer and hypertrophy of mucus glands. Asthma symptoms are produces due to narrowing of smaller airway and may include breathlessness, wheezing, chest tightness, and cough after exposure to allergens, environmental irritants, viruses, cold air and exercise (Taylor *et al.*, 2008). Immunological mechanisms play very important role in pathogenesis of asthma (Marsha, 1999). IgE antibody and antigen interaction start the inflammatory process where many mediators like histamines, prostaglandins and leukotrienes, which preceding into acute bronchoconstriction (Holgate and Polosa, 2008). The degree of airway hyper responsiveness generally correlates with the clinical severity of asthma (Taur and Patil, 2001; Ravichandran *et al.*, 2010). Respiratory tract in response to various stimuli (antigen, virus, pollutant and occupational agent etc.) causes the release of arachidonic acid and other proinflammatory proteins like cytokines and kinins. This result in alteration of vascular permeability of the airways, development of oedema and leukocytes infiltrated. (Gibson *et al.*, 1991; Peter, 2008). In first response basophils and mast cells count increase locally. Allergen specific immunoglobulin E (IgE) binds to Fc receptors on the mast cells resulting release of preformed mediators leading to the alteration in vascular permeability (Athari and Athari, 2014; Thomas, 2001). After that airway edema and infiltration of eosinophils, neutrophils, lymphocytes, macrophages and secondary mediators such as prostaglandins, thromoxane, prostacyclins, leukotrienes and platelet activating factor. The inflammatory process also involves T helper-2 cells, which produce interleukin (IL)-4, IL-5, and IL-13 (Wegmann, 2009). Oxidative stress in the airways increase in asthmatic patients due to overproduction of ROS by Eosinophils, alveolar macrophages and neutrophils (Nadeem *et al.*, 2003; Teramoto *et al.*, 1996). This overproduction of ROS depresses protective mechanisms of airway and results in bronchial hyperreactivity (Hulsmann *et al.*, 1994).

TREATMENT STRATEGY

In today's medical system, management of asthma including corticosteroids inhalation and β2 agonists, targeting chronic airway inflammation and airway smooth muscles (Kim *et al.*, 2011). Existing therapies for asthma, particularly combination inhalers are highly effective, relatively inexpensive and safe (Barnes, 2002). In spite of availabily of effective inhalation therapy there is still approximately 5–10% of people which do not have this disease under control (Wenzel and Busse, 2007). The main aim of the asthma management is to limiting the present impairment and dropping the risk for future deterioration and exacerbations (Taylor *et al.*, 2008). Presently accessible treatments niethe has long-term effects on neither airway inflammation nor remodeling. Therefore, these are not disease-modifying or curative. Now a day Ayurvedic drugs are considered with immense interest by researchers and it may result in discovery of some novel herbal derived bioactive compounds (Patwardhan and Mashelkar, 2009). Ayurveda is an extensive used health care system that offers a unique approaching toward asthma management through proper care of the respiratory tract with the help of herbs and minerals. Medicinal plant having anti-inflammatory, immunomodulatory, smooth-muscle relaxants anti-allergic, anti-histaminic, mast cell stabilizing, bronchodilator and antioxidant property are useful in the cure of asthma (Greenberger, 2003; Henricks and Nijkamp, 2001).

Table - 1. Medicinal plants effective in Asthma.

S. No.	*Plant*	Family	Part	Mechanism	Reference
1.	*Abrus precatorius* Linn.	Fabacease	[Lf]	Mast cell stabilizing activity and protect degranulation of mast cell.	Taur *et al.*, 2011.
2.	*Achyranthes aspera* Linn	Amaranthaceae	[Rt], [Fr]	Antihistaminic, inhibits action of histamine, acetylcholine and 5-HT, mast cell stabilizer, Decreased ESR, decreased total eosinophil count, anti-inflammatory and bronchoprotective effect.	Goyal *et al.*, 2007; Bhosale *et al.*, 2012.
3.	*Acorus calamus* Linn.	Araceae	[Rh]	Inhibits action of histamine, acetylcholine and 5-HT.	Kim *et al.*, 2012.
4.	*Adhatoda vasica* Nees.	Acanthaceae	[Lf], [Rt]	Antiallergic, anti-anaphylactic, anti-inflammatory, antitussive, bronchodilator and bronchoprotective activity.	Amin and Mehta, 1959; Dhuley, 1999; Gupta *et al.*, 1977.
5.	*Aegle marmelos* Linn. Conr	Rutaceae	[Lf]	Antihistaminic	Arul *et al.*, 2004.
6.	*Aerva lanta* Linn.	Amaranthaceae	[AP]	Mast cell stabilizing.	Kumar *et al.*, 2009
7.	*Albizzia lebbeck* Roxb.	Fabaceae	[Br]	Bronchodilator, mast cell membrane stabilizing effect, cromoglycate-like action on the mast cells and inhibit the early processes of sensitization and synthesis of reaginic-type	Babu *et al.*, 2009; Venkatesh *et al.*, 2010.

				antibodies.	
8.	*Allium cepa* Linn.	Liliaceae	Bulb	Mast cell membrane stabilizing activity, inhibitor of mast cell secretion causes a decrease in the release of tryptase, MCP-1 and IL-6, lipoxygenase inhibitor, PAF inhibitor and COX inhibitor	Shaik *et al.*, 2006
9.	*Alstonia scholaris* R. Br.	Apocynaceae	[Lf]	Bronchodilator activity mediated through prostaglandins, calcium antagonism and endothelium-derived relaxing factor.	Channa *et al.*, 2005.
10.	*Aquilaria agallocha* Roxb.	Thymelaceae	[Ht W]	Anti-anaphylactic effect, inhibit immediate hypersensitivity reaction and inhibition of histamine release from mast cells.	Kim *et al.*, 1997.
11.	*Argemone Mexicana* Linn.	Papaveraceae	[St]	Antiallergic and antistress activity	Bhalke and Gosavi, 2009
12.	*Aristolochia bracteolate* Lamk.	Aristolochiaceae	[Lf], [Rt]	Mast cell membrane stabilization activity.	Chitme *et al.*, 2010
13.	*Asystasia gangetica* Linn.	Acanthaceae	[Lf]	Bronchodilator, anti-inflammatory, anti-histaminic activity.	Akah *et al.*, 2003.
14.	*Atropa belladonna* Linn.	Solanaceae	[Lf]	Anti-cholinergic	Rajput, 2013
15.	*Azadirachata indica* A Juss.	Meliaceae	[Br], [Lf]	Prevent the release of inflammatory mediators or inflammation in asthma	Kumar, 2011
16.	*Bacopa monnieri* Linn.	Scrophulariaceae	[WP]	Mast cell stabilizing.	Samiulla *et al.*, 2001
17.	*Balanites roxburghii* Planch.	Simarubaceae	[Br]	Bronchodilator, mast cell stabilizer and anti-histaminic (H1 receptor antagonist)	Singh *et al.*, 2009
18.	*Bauhinia variegata* Linn.	Caesalpiniaceae	[Br], [Fl]	Mast cell stabilizing activity.	Mali and Dhake, 2011
19.	*Boswellia serrata* Roxb.	Burseraceae	[Rt]	Mast cell stabilizing, inhibit biosynthesis of leukotrienes and increase in forced expiratory volume in one second (FEV1)	Ammon *et al.*, 1991; Gupta *et al.*, 1998; Pungle *et al.*, 2003
20.	*Cassia sophera* Linn.	Caesalpiniaceae	[Lf]	Bronchodilator, Antiallergic, Anti-inflammatory, Antihistaminic, (Histamine induced bronchoconstriction).	Nagore *et al.*, 2009.
21.	*Cedrus deodara* (Roxb.) Loud	Pinaceae	[Ht W]	Mast cell stabilizer and anti-inflammatory activity	Shinde *et al.*, 1999a; Shinde *et al.*, 1999b; Shekhar *et al.*, 2003.
22.	*Centella asiatica* Linn.	Apiaceae	[WP]	Antiallergic and anti-inflammatory activities.	Mathew *et al.*, 2009
23.	*Clerodendron phlomidis* Linn. f	Verbenaceae	[Lf]	Antihistaminic and mast cell stabilizer	Vadnere *et al.*, 2007.
24.	*Clerodendrum Serratum* (Linn.) Moon	Verbenaceae	[Lf]	Bronchodilator and inhibiting the histamine induced contraction of trachea	Bhujbal *et al.*, 2009
25.	*Crinum glaucum* Linn.	Amaryllidaceae	[Rh], [Lf]	Antiallergic, protecting degranulation of mast cell and protecting histamine induced bronchoconstriction.	Okpo and Adeyemi, 2002
26.	*Curculigo orchioides* Gaertn.	Hypoxidaceae	[Rt]	Mast cell stabilizing, antihistaminic activity (protecting histamine induced contraction in goat trachea), anti-anaphylaxis and decrease leucocytosis and eosinophilia.	Venkatesh *et al.*, 2009

27.	*Cynodon dactylon* Linn.	Poaceae	[WP], [Rt]	Antianaphylactic activity and mast cell degranulation	Savali *et al.*, 2010
28.	*Eclipta alba* (Linn.) Hassk.	Asteraceae	[WP]	Antianaphylactic and antihistaminic activity.	Patel *et al.*, 2009
29.	*Emblica officinalis* Gaertn.	Euphorbiaceae	[Fr]	Antitussive activity.	Nosál'ová *et al.*, 2003
30.	*Euphorbia hirta* Linn.	Euphorbiaceae	[WP]	Antihistaminic, antiallergic activity and protection of mast cell from degranulation.	Youssouf *et al.*, 2007
31.	*Ficus bengalensis* Linn.	Moraceae	[Br], [Lf], [Lt]	Antihistaminic activity	Taur *et al.*, 2007.
32.	*Ficus religiosa* Linn.	Moraceae	[Br], [Lt], [Lf]	Mast cell stabilizing	Kapoor *et al.*, 2011.
33.	*Hemidesmus indicus* R. Br.	Asclepiadaceae	[Rt]	Antagonize H1 receptor and inhibition of mast cell degranulation.	Bhujbal *et al.*, 2009
34.	*Inula racemosa* Hool. f.	Asteraceae	[Rt]	Anti-histaminic, anti-serotonergic and mast cell stabilizing.	Srivastava *et al.*, 1999
35.	*Kaempferia parviflora* Wall.	Zingiberaceae	[Rh]	Anti-allergic	Tewtrakul *et al.*, 2008; Tewtrakul and Subhadhirasakul 2007
36.	*Lepidium sativum* Linn.	Cruciferae	[SD]	Bronchodilator, inhibit bronchospasm induced by histamine and acetylcholine.	Mali *et al.*, 2008
37.	*Mentha spicata* Linn.	Lamiaceae	[Lf]	Antihistaminic activity and inhibiting antigen stimulated rat basophile.	Yamamura *et al.*, 1998.
38.	*Mimosa pudica*Linn.	Fabaceae	[Rt], [WP]	Histamine induced bronchospasm.	Mali and Asif, 2011.
39.	*Momordica dioica* Roxb. ex. Willd	Cucurbitaceae	[Fr]	Antihistaminic activity.	Rakh *et al.*, 2010.
40.	*Moringa oleifera* Lam.	Morangaceae	[SD]	Antihistaminic activity	Agrawal and Mehta, 2009
41.	*Mucuna pruriens* (Linn.) DC.	Fabaceae	[SD]	Antihistaminic activity and mast cell degranulation.	Pathan *et al.*, 2009
42.	*Myrica esculenta* Buch. Ham	Myricaceae	[AP]	Antiallergic, anti-inflammatory activity, possesses bronchodilator and antianaphylactic activity	Patel *et al.*, 2010.
43.	*Myrica sapida* Buch. Ham. ex D. Don	Myricaceae	[Br]	Mast cell stabilizer	Patel *et al.*, 2008.
44.	*Nyctanthes arbor-tristis* Linn.	Nyctanthaceae	[Lf], [Br]	Antihistaminic activity	Nirmal *et al.*, 2009.
45.	*Ocimum sanctum* Linn.	Labiateae	[Lf]	Mast cell stabilizer, possess immunomodulatory potential and antioxidant and cyclooxygenase inhibitory properties and can inhibit enhancement of the vascular and capillary permeability and leukocyte migration after inflammatory stimulus	Mediratta *et al.*, 2002; Kelm *et al.*, 2000; Singh and Majumdar, 1999.
46.	*Olea europea* Linn.	Oleaceae	Ripe Olives	Antihistaminic activity	Chandak *et al.*, 2009
47.	*Piper betel* Linn.	Piperaceae	[Lf]	Antihistaminic activity	Jawale *et al.*, 2009.
48.	*Piper longum* Linn.	Piperaceae	[Fr]	Anaphylaxis and protected guinea pigs against antigen induced bronchospasm	Choudhary, 2006.

49.	*Semecarpus anacardium* Linn. f.	Anacardiaceae	[Fr]	Antiallergic.	Ghegade *et al.*, 2010.
50.	*Solanum nigrum* Linn.	Solanaceae	[Fr]	Mast cell stabilizing	Nirmal *et al.*, 2012.
51.	*Solanum xanthocarpum* Scharad. Wandl	Solanaceae	[Fl]	Bronchodilator, antihistaminic, mast cell stabilizer, reduction of bronchial mucosal edema and reduction of airway secretions	Govindan *et al.*, 1999 Vadnere *et al.*, 2008
52.	*Sphaeranthus indicus* Linn.	Asteraceae	[WP]	Mast cell stabilizing	Mathew *et al.*, 2009.
53.	*Tamarindus indica* Linn.	Caesalpiniaceae	[Lf], [WP]	Brochodialator, anti-inflammatory, antihistaminic activity (H_1 receptor antagonist), decrease eosinophilia, leucocytosis and mast stabilizing activity.	Tayade *et al.*, 2009
54.	*Terminalia bellirica* Roxb.	Combrataceae	[Fr]	Mast cell stabilizer, antitussive effects, antioxidant activity, anticholinergic and Ca^{++} antagonist effects.	Gilani *et al.*, 2008; Vyas and vyas, 2009.
55.	*Tinospora cordifolia* Willd.	Mensipermaceae	[St]	Antihistaminic and mast cell stabilizer	Nayampalli *et al.*, 1986
56.	*Trachyspermum ammi* Linn	Apiaceae	[Fr]	Antiallergic, bronchodilator and spasmolytic effect (calcium antagonist).	Gilani *et al.*, 2005; Boskabady *et al.*, 2000.
57.	*Vitex Negundo* Linn.	Verbinaceae	[Lf]	Mast cell stabilizing an bronchodilatory,	Patel and Deshpande, 2011

[AP]: Aerial Parts; [Br]: Bark; [Lf]: Leaf; [Rh]: Rhizome; [Rt]: Root; [SD]: Seed; [Lt]: latex; [Fr]: Fruit; [Fl]: Flower; [WP]: Whole plant; [HtW]: Heart Wood; [St]: Stem.

Table - 2. List of Antiasthmatic herbal preperations

S. No.	Formulation	Important Ingredients	Reference
1.	Ajmodadi curna	Ajamoda (*Trachyspermum roxburghianum* (DC.) Craib.), Haridra (*Curcuma longa* Linn.), Amalaki (*Emblica officinalis* Gaertn.), Yavakshara (a mixture of potassium salts) and Chitraka (*Plumbago zeylanica* Linn.).	Tripathi, 2005
2.	Bharangyadi avaleha	Bharangi (*Clerodendrum serratum* Linn.), Kasamarda (*Cassia occidentals* Linn.), Vasa (*Adhatoda vasica* Nees.), Trikatu [mixture of Maricha (*Piper nigrum* Linn.), Pippali (*Piper longum* Linn.), Haridra, Sunthi (*Zingiber officinale* Roscoe.)], Guduchi (*Tinospora cordifolia* Mers.) and Dhanyaka (*Coriandrum sativum* Linn.).	Gohel *et al.*, 2011
3.	Bharangyadileha	Bharangi and Sunthi	Shastri, 2010
4.	Bhargi sharkara	Bharangi, Vasa, Kantakari (*Solanum surattense* Burm. f.) and Dashamula	Shastri, 2008
5.	Chandanadi taila	Tila Taila, Chandana (*Santalum album* Linn.), Raktachandana (*Pterocarpus santalinus* Linn. f.), Aguru (*Aquilaria agallocha* Roxb.), Devadaru (*Cedrus deodara* Roxb.), Trinapanchamula and Karpura (*Cinnamomum camphora* Nees & Eberm.).	Shastri, 2008
6.	Chavyadi curna	Chavya (*Piper chaba* Hunter.), Amlavetasa, Trikatu, Amlika (*Tamarindus indica* Linn.), Tallish Patra (*Abies webbiana* Lindl.) and Vanshlochana (*Bambusa arundinacea* Willd.).	Tripathi, 2005
7.	Drakshavleha	Draksha (*Vitis vinifera* Linn.), Pippali and Karkatashringi (*Pistacia integerrima* Stewart ex Brandis).	Shastri, 2005
8.	Gudavleha	Old Jiggery and Katu Taila (*Brassica compestris* Linn.).	Shastri, 2010
9.	Haridradi leha	Haridra, Maricha, Rasna (*Pluchea lanceolata* Oliver & Hiern.) and Old Jaggary.	Shastri, 2010

10.	Hinsradi ghrita	Hinsra (*Capparis sepiaria* Linn.), Vidanga (*Embelia ribes*), Karanja (*Pongamia pinnata* Linn.), Triphala [mixture of Amalaki, Haritaki (*Terminalia chebula* Retz.) and Bibhitaki (*Terminalia bellirica* Roxb.)] and Sunthi.	Shastri, 2005
11.	Kankasava	Dhatura (*Datura metel* Linn.), Vasa, Madhuka Pushpa (flower of *Madhuca indica* J. F. Gmel.), Pippali and Kantakari.	Shastri, 2008
12.	Kantakari ghrita	Kantakari, Rasna, Bala (*Sida cardifolia* Linn.), Goksharu (*Tribulus terrestris* Linn.) and Trikatu.	Tripathi, 2005
13.	Kshudravleha	Kantakari, Twaka (*Cinnamomum zeylanicum* Blume.), Patra (*Cinnamomum tamala* Nees & Eberm.) and Ela (*Elettaria cardamomum* Maton.).	Shastri, 2010
14.	Mriganga vatika	Swarna Bhasma, Kanta louha, Parada, Abhraka, Pravala, Mukta and Bhibhitaki.	Shastri, 2008
15.	Nagarjunabhra rasa	Abhraka Bhasma and Arjuna Twaka (bark of *Terminalia arjuna* (Roxb.) W. & A.).	Shastri, 2008
16.	Nayopayam kashaya	Bala, Jeeraka (*Cuminum cyminum* Linn.) and Shunthi.	Shyam *et al.*, 2010
17.	Padmapatradi yoga	Puskaramula (*Inula recemosa* Hook.), Bharangi, Malaya Vacha (*Alpinia galanga* Willd.), Shati (*Hedychium spicatum* Ham. Ex Smith.) and Pippali.	Panda *et al.*, 2011
18.	Shatyadi curna	Shati, Bharangi, Vacha (*Acorus calamus* Linn.), Trikatu, Haritaki, Sauvarchala lavana (Unaqua Sodium chloride), Kataphala (*Myrica esculenta*), Pushkaramula (*Inula racemosa* Hook. f.) and Karkatashringi.	Shastri, 2010; Sharma *et al.*, 2013
19.	Sirishadi kashaya	Shirisha (*Albizzia lebbeck* Benth.), Vasa, Kantakari and Yashtimadhu (*Glycyrrhiza glabra* Linn.).	Chandra *et al.*, 1996
20.	Sopuvarchaladi ghrita	Souvarchala, Haritaki and Bilva (*Aegle marmelos* Correa).	Shastri, 2005
21.	Sringyadi curna	Karkatasringi and Trikatu.	Shastri, 2010
22.	Swasabhairava rasa	Parada, Gandhaka, Vatsnabha (purified *Aconitum ferox* Wall.), Shunthi, Maricha, Chavya and Chitraka.	Shastri, 2008
23.	Swasakasa chintamani	Paradas, Swarna Bhasma, Mukta, Gandhaka, Abhraka, Lauha and Yashthimadhu.	Shastri, 2008
24.	Swasakuthar rasa	Rasa (Mercury), purified Gandhaka (Sulphur) purified tankana (Borax) purified manahshila (Realgar) purified Vatsanabha along with trikatu.	Shastri, 2010; Chandra *et al.*, 1996
25.	Talishadi ghrita	Talishpatra, Bhuamalaki (*Phyllanthus niruri* auct. Non L.), Vacha, Jivanti (*Leptadenia reticulata* W. & A.), Pippali and Chitraka.	Shastri, 2005
26.	Tejovatyadi ghrita	Tejovati (*Zanthoxylum alatum* Roxb.), Haritaki, Kushtha (*Saussurea lappa* C. B. Clarke.), Pippali, Puskaramula and Karchura (*Curcuma zedoaria* Rosc.).	Shastri, 2008
27.	Trivrutadi Modaka	Trivrut (*Operculina tupethum* Linn.), Triphala, Vidanga, Pippali and Yava Kshara (alkali preparation of *Hordem Vulgare* Lin)).	Devi *et al.*, 2013.
28.	Vasa avaleha	Vasa and Pippali.	Gohel *et al.*, 2011
29.	Vijay vati	Parada, Gandhaka, Lauha bhasma, Vatsanabha, Abhraka Bhasma, Vidanga, Mustaka (*Cyperus rotundus* Linn.), Pippalimula and Nagakeshar (*Mesua ferrea* Linn.).	Shastri, 2008
30.	Vyaghri haritaki	Kantakari, Haritaki, Sunthi, Maricha, Pippali, Tvak, Patra, Ela and Nagakeshar.	Deshpande *et al.*, 2012.

CONCLUSION

Chronic bronchial asthma diseases, bronchial hyper responsiveness etc. are the leading health problem in worldwide, with secretarial most important reason of bereavement in developing countries. In Ayurveda texts, few numbers of herbal medicines are reported for this chronic disease. As from above explanation, it is clearly identified that medicinal plants are evaluated and their useful parts are reported based on their effectiveness in bronchial asthma and their clarification also shows their prospective beneficial effect of this diseases. So, in recent times more efforts should be focussed towards the useful scientific evaluation for their protection, usefulness and effectiveness of this disease. In this review article, it has been prepared to accumulate the reported anti asthmatic plants in the field of Ayurveda.

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