



ASTHMA: ALTERNATIVE MANAGEMENT APPROACHES

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ABSTRACT

Asthma is a chronic lung disease characterized by episodes of acute bronchoconstriction causing shortness of breath, cough, chest tightness, wheezing and rapid respirations, which is influenced by multiple genetic developmental and environmental factor, that affect over 300 million people around the world and one in four urban children. Alternative approaches to asthma management include different systems of medicine like Ayurveda, Homeopathy and Naturopathy. The different systems of medicine excludes allopathic medicine are preventive, alternative therapies for curing asthma, but for short term immediate relief allopathic medicine is the only answer.

Key words: Asthma, Alternative approaches, Ayurveda, Homeopathy and Naturopathy.

INTRODUCTION

Public attention in the development world has recently focuses on asthma because of its rapidly increasing prevalence, affecting up to one in four urban children. Over 300 million people around the world suffer from this non-communicable respiratory disease. Recent report shows wide variation (4-19%) in the prevalence of asthma in school- going children from different geographical areas in India¹. Susceptibility to asthma can be explained in part by genetic factors, developmental, and environmental factors, which interact to produce the overall condition.

The word 'asthma' is derived from the Greek meaning ' panting' or 'labored breathing'. Asthma is a condition characterized by a paroxysmal wheezing dyspnoea (difficulty in breathing), mainly expiratory. Asthma is the disease of the respiratory system in which the airways constrict, become inflamed, and are lined with excessive amounts of mucus, often in response to one or more "triggers," such as exposure to an environmental stimulate (or allergen), cold air, exercise, or emotional stress. In children, the most common triggers are vital illnesses such as those that cause the common cold. Asthma is a chronic condition in which these airways undergo changes when stimulated by allergens or other environmental triggers. Such changes appear to be two specific responses^{2, 3, 4, 5, 6}.

Hyper reactive Response

In the hyper reactive response, smooth muscles in the airways constrict and narrow excessive in response to inhaled allergens or other irritants. It should be noted that the airways in everyone's lungs response by constricting when exposed to allergens or irritants.

There are major differences, however, in the hyper reactive response occurs in people with asthma. When normal people breathe in and deeply, the airways relax and open in order to rid the lungs of the irritants. When people with asthma take those same deep breaths, their airways do not relax but instead narrow and the patients pant for breath.

Inflammatory Response

The hyper reactive stage is followed by the inflammatory response, which generally contributes to asthma in the following way: The immune system responds to allergens or the other environmental triggers by delivering white blood cells and the other immune factors to the airways and causes the airways to swell, to fill with fluid, and to produce thick sticky mucus.

This results in wheezing, breathlessness, inability to exhale properly, and a phlegm-producing cough. An inflammation of lungs

present in all asthmatic patients, evens those with mild cases, and plays a key role in all forms of the disease.

TYPES OF ASTHMA

An acute asthma attack is caused by inflammation in the airways of the lungs, causing contraction and narrowing of the airways (bronchioles), restricting airflow and making breathing very difficult where as Chronic asthma is a lung condition characterized by frequent asthma attacks and requiring medical management to prevent and minimized acute attacks.

Exercise-induced asthma (EIA) is a limited form of asthma in which exercise triggers coughing, wheezing, or shortness of breath. This condition generally occurs in children and young adults, most often during intense exercise in cold dry air.

Symptoms are generally most intense for 10 minutes after exercise and then gradually subside. EIA is triggered only by exercise and is distinct from ordinary allergic asthma in that it does not produce a long duration of airways activity, as allergic asthma does.

DEGREE OF SEVERITY

The severity of asthma (Table 1) is graded using the following categories: mild intermittent and mild, moderate, and severe persistent. It should be noted that a patient in any of these categories, even mild intermittent, can still experience a severe and even life-threatening attack. In fact, according to open report, 30% of asthma deaths occur in patients with mild asthma.

CAUSES OF ASTHMA

The most common things in the environment that triggers asthma leads to asthmatic are exercise allergens, irritants, and viral infections.

Allergens like Animal dander (from the skin, hair, or feathers of animals), Dust mites (contained in house dust), Cockroaches, Pollen from trees and grass and Mold (indoor and outdoor).

Irritants like Cigarette smoke, Air pollution, Cold air or changes in weather, Strong odors from painting or cooking, Scented products, Strong emotional expression (including crying or laughing hard) and stress.

Others like Medicines such as aspirin and beta-blockers, Sulfites in food (dried fruit) or beverages (wine), A condition called gastro esophageal reflux disease that causes heartburn and can worsen asthma symptoms, especially at night, Irritants or allergens that you may be exposed to at your work, such as special chemicals or dusts and Infections.

SYMPTOMS OF ASTHMA

- Wheezing: When breathing out is nearly always present during an attack. Usually the attack begins with wheezing and rapid breathing, and as it becomes more severe, all breathing muscles become visibly active.
- Shortness of breath (dyspnea): Shortness of breath is a major source of distress in asthma patients, although severe dyspnea does not always reflect a serious attack or reduced lung function.
- Coughing: In some people the first symptom of asthma is a nonproductive cough
- Chest tightness (pain): Initial chest tightness without any other symptoms may be an early indicator of a serious attack. The neck muscles may tighten, and talking may become difficult or impossible. Chest pain occurs in about three-quarters of patients; it can be very severe, although its intensity is not necessarily related to the severity of the asthma attack itself.
- Rapid heart rate and sweating
- The end of an attack is often marked by a cough that produces thick, stringy mucus. After an initial acute attack, inflammation persists for days to weeks, often without symptoms.

DIAGNOSIS

In most cases, a physician can diagnose asthma on the basis of typical findings in a patient's clinical history and examination. Asthma is strongly suspected if a patient suffers from eczema or other allergic condition-suggesting a general atopic constitution-or has a family history of asthma. While measurement of airway function is possible for adults, most new cases are diagnosed in children who are unable to perform such tests. Diagnosis in children is based on a careful compilation and analysis of the patient's medical history and subsequent improvement with an inhaled bronchodilator medication. In adult, diagnosis can be made with a peak flow meter (which tests airway restriction), looking at both the diurnal variation and any reversibility following inhaled bronchodilator medication.

Testing peak flow at rest (or baseline) and after exercise can be helpful, especially in young asthmatics that may experience only exercise-induced asthma. If the diagnosis is in doubt, a more formal lung function test may be conducted. Once a diagnosis of asthma is made, a patient can use peak flow meter testing to monitor the severity of the disease.^{2,3,4,5,6}

ASTHMA TREATMENT

Treatment of asthma is classified into two major classes i.e. Alternative systems and Allopathic medicine⁷ (Figure 1).

I. ALTERNATIVE SYSTEMS (Table 2)

1) AYURVEDA MEDICINE

Asthma, known as "Tamak-Shvasa" in ancient Ayurvedic science. The main Doshas (humors) involved in the pathogenesis of bronchial asthma are Vata (air) and Kapha (water).

According to Ayurvedic symptoms due to these two Doshas are: Coryza, dyspnoea (breathlessness) & wheezing characterized by acute condition and causing great affliction to the vital breathe. On account of the force of the paroxysm the sufferer faints, coughs and becomes motionless. Owing to the inability to expectorate, one feels greatly and after expectorating the sputum, one feels comfort for while. The throat is afflicted with sputum and can hardly speak. The person is not able to sleep while lying flat in his bed, because Vata (air) humor presses upon both sides. The person is not finds comfort in sitting posture and craves only hot things. With eyes wide open, there's sweating on the forehead, dry mouth and breathing is easy, then once again respiration becomes violent. These paroxysms are

intensified by cloudy, humid and allergic & cold environment as well as by Kapha (water) increasing foods^{8,9}.

HERBAL TREATMENT

Herbs used as an asthma natural remedy for natural treatment. From a natural healing point of view, asthma reflects the health of the lungs, adrenal, nervous and immune systems. This means that long term solutions must involve treatment of the adrenal glands, lungs, nervous and immune systems⁹.

Respiton - 850 mg Tablets is composed of high quality extracts of Tulsi (*Ocimum sanctum*), Dalchini (*Cinnamomum cassia*), Puskarmool (*Inula racemosa*), Kantkari (*Solanum indicum*), Vasa/Vansa (*Adhatoda vasika*), Bharagi (*Clerodendron serratum*), Pipali (*Piper longum*), Apamarga (*Achyranthes aspera*), Vibhitaki (*Terminalia belerica*), Mulethi (*Glycyrrhiza glabra*) and Lavang (*Myrtus caryophyllus*) without the use of chemical fertilizers, pesticides or preservatives. Serving Size: Adult-2 tablets 2 or 3 times a day preferably before meals with lukewarm water or tea. Reduce dosage later on if needed or adjust the dose as per requirement.

Asthma aid capsule is composed of high quality extracts of Celery (seed) - *Apium graveolens*, Musturd (seed)-*Brassica nigra*, Elecampane (root)-*Inula helenium*, Hyssop (aerial)-*Hyssopus officinalis*, Valerian (root)-*Valeriana wallichii*, Garlic (bulb)-*Allium sativum*, Skullcap (aerial) - *Scutellaria lateriflora* and Ginger (root)-*Zingiber officinale*. No additives or other ingredients. Free from preservatives, colorants & artificial additives. No sugar, yeast or wheat. Serving Size: 2 capsule (500 mg).

According to Ayurveda the effects of these herbs are to liquefy the thick bronchial secretion and help in cough expectoration. They are Vatta (air), Pitta (fire) and Kapha (water) pacifying and are traditionally used in cough and asthmatic problems. They help in reducing inflammation of the bronchioles. Useful in chronic cough and have ant tubercular properties, pharyngitis and bronchitis, reducing the cough and relieving chest pain. The benefits of these herbs are highly praised in Ayurveda for conditions like breathlessness, chest congestion, cough and cold, which act by making the secretion thin and helps in expectoration, reduce the inflammation of the respiratory system.

Herbal drugs used in asthma⁹

Adhatoda (*Adhatoda vasica*): The *Adhatoda vasica* leaf has been used for centuries to treat asthma where it works as a bronchodilator and mild expectorant. Adhatoda also works by increasing the viscosity of mucous to assist with expectoration. Key constituents of Adhatoda leaf are the quinazoline alkaloids (0.5-2%). The major alkaloid is vasicine present at levels of 45-95% and is the original source of the drug bromhexine, which is often still used to assist expectoration.

Bitter Gourd Root (*Momordica charantia*): The roots of bitter gourd plant have been used in folk medicine since ancient times. A teaspoon of the root paste, mixed with an equal amount of honey or juice of the holy basil, is an excellent expectorant, and is a remedy for asthma. It should be taken once every night for month.

Coltsfoot (*Tussilago farfara*): It has been used medicinally as a cough suppressant. The plant has been used in historical times to treat lung ailments such as asthma as well as various coughs by way of smoking.

Chinese Skullcap (*Scutellaria baicalensis*): The root of this plant has been used in traditional Chinese medicine for a variety of conditions including asthma. Chinese skullcap contains flavone derivatives including baicalin, wogonin and baicalein which inhibit histamine release from mast cells in vitro. Baicalin showed antiasthmatic activity in isolated tracheal muscle from asthmatic guinea pigs. Reducing hypersensitivity and inflammation in airways is vital to managing asthma.

Figs (Anjeer) (*Ficus carica*): Dry figs help clear mucus from bronchial tubes and are therefore a valuable food remedy for asthma. Phlegmatic cases of cough and can treated with success. It gives comfort to patient by draining off the phlegm. Three or four

dry figs should be cleaned thoroughly with warm water and soaked overnight. They should be taken during morning time in an empty stomach, along with the water in which they are soaked. This treatment may be continued for about two months.

Garlic (*Allium cepa*): Garlic is another effective home remedy for asthma. Ten cloves of garlic should be boiled in 30 ml of milk. This makes an excellent medicine for the early stages of asthma. The patient should take this mixture once daily. Steaming ginger tea with minced garlic pods in it can also help to keep the problem under control and should be taken both, in the morning and evening.

Ginkgo Biloba (*Ginkgo biloba*): One of the oldest herbs in use today, ginkgo has a broad range of indications. For asthma sufferers, ginkgo works to inhibit PAF (platelet activating factor), a powerful inducer of platelet aggregator and anaphylactic reactions. Natural Herbs that stimulate anti-PAF activity are known to assist in the treatment of asthma, allergic reactions, thrombosis and shock. One study showed that a 600mg standardized dose of ginkgo reduced airway hypersensitivity in patients with asthma.

Grindelia (*Grindelia spp.*): This is an expectorant herb with bronchospasmolytic activity. It is traditionally recommended for the treatment of spasmodic respiratory conditions such as asthma and bronchitis. The British Herbal Pharmacopoeia 1983 lists the specific indication as bronchial asthma with tachycardia.

Honey (shahad): Honey is one of the most effective home remedies for asthma. It is said that if a jug of honey is held under the nose of the asthmatic patient and he inhales the air that comes in contact with honey, he starts breathing easier and deeper. The effect lasts for about an hour or so. Honey usually brings relief, whether the air flowing over it is inhaled or whether it is eaten or taken either in milk or water. It thins out accumulated mucus and helps its elimination from the respiratory passage.

Indian Gooseberry (*Emblica officinalis*): This fruit has proved valuable in asthma. Five grams of gooseberry mixed with one tablespoon of honey, forms an effective medicinal expectorant and tonic for the treatment of this disease. It should be taken every morning. When fresh fruit is not available, dry gooseberry powder can be used, mixed with honey.

Linseed (*Linum usitatissimum*): A decoction made from linseed is considered useful in curing congestion in asthma and to prevent recurrence of attacks. Simultaneously; linseed poultice should be applied externally at the lung bases for reducing internal congestion.

Licqorice (*Glycyrrhiza glabra*): The Licqorice root has been used traditionally to restore breathing and calm the breathing passages.

Mustard Oil (*Brassica spp*): During the attack, mustard oil mixed with little camphor should be massaged over the chest. This will loosen up phlegm and ease breathing. The patient should also inhale steam from boiling water mixed with caraway seeds (siya jeera). It will dilate the bronchial passage.

Turmeric (*Curcuma longa*): Turmeric is valuable in asthma. The patient should be given a teaspoon of turmeric powder with glass of milk, two or three times daily. It acts best when taken on an empty stomach. The 60% of asthma patients given 6-12grams of turmeric powder that had been fried in ghee showed a relief in their symptoms.

Elecampane (*Inula helenium*): Helps tone lungs. Used in bronchitis, asthma treatment and emphysema. A stimulating and anti-inflammatory expectorant which helps dry up mucus secretions.

Skullcap (*Scutellaria lateriflora*) & Valerian (*Valeriana officinalis*): These are nervine herbs that are useful for asthmatics. Calming herbs may help in stressful situations when the asthmatic may be more vulnerable to an attack.

2) HOMEOPATHIC MEDICINE

The term homeopathy comes from the Greek words *homeo*, meaning similar, and *pathos*, meaning suffering or disease. Homeopathy seeks to stimulate the body's ability to heal itself by giving very small

doses of highly diluted substances. The principle of similars (or "like cures like") states that a disease can be cured by a substance that produces similar symptoms in healthy people.

While dealing with a case of asthma, a homeopath not only records the symptoms of the disease but also studies the medical history, family history, physical and psychological characteristics of a person. This helps to find the cause, the precipitating factors, and the hereditary tendency etc. Of special interest to a homeopath is the history of suppression of skin disease. Homeopaths believe that when there is a tendency or predisposition for a disease - it first manifests on the less vital organs, towards the periphery like skin. If this manifestation is suppressed than the disease shifts inwards, towards the more vital organs like lungs, heart, brain etc.

The fact that in children asthma is often preceded by eczema is observed by the allopath also. This fact is written in all their textbooks of medicine. They say that children often 'move-out' of eczema and 'move-into' asthma. But they are unable to make a correlation. Homeopaths believe that the suppression of eczema with topical preparations, does not cure the disease/sensitivity of the person, it merely drives it inwards.

Now after ascertaining the symptoms and the cause, the homeopath tries to find a medicine which matches the symptoms as well as the general characteristics of the person. The medicine so selected is administered to the patient^{10,11}.

HOMEOPATHIC TREATMENT

Asthma – Natural Homeopathic Medicine: A natural homeopathic medicine for control of the symptoms of asthma and bronchitis, including difficulty in breathing, shortness of breath, tightness of chest, wheezing or coughing. Recommended dosage is

take 10-15 drops under the tongue every 10-15 minutes, or as needed until symptoms improve, then decrease to every 1-2 hours, then to 4 times daily until symptoms are relieved. For children fewer than 12, consult your health care professional. The active ingredients present are *Zingiber officinale* (Ginger) 3x, *Aralia racemosa* (Spikenard) 6x, *Eucalyptus globules* (Eucalyptus) 6x, *Grindelia* (Gum plant) 6x, *Hypericum perforatum* (St. John's Wort) 6x, *Lobelia inflata* (Indian tobacco) 6x, *Sanguinaria Canadensis* (Blood Root) 6x and *Cinchona officinalis* (Peruvian bark) 12x. Other ingredients like Purified water and 20% USP alcohol¹².

Biovent- Homeopathy Medicine: Bio Vent asthma remedy is a unique combination of herbal and homeopathic ingredients. It controls and prevents asthma attacks and assists with the management of chronic asthma. It can improve respiratory functioning and health, reduce the incidence and severity of asthma attacks and strengthen the immune system by daily usage. Use of Bio Vent Drops to improve respiratory functioning and health, reduce the frequency and severity of asthma attacks, reduce allergic reactions, ensure strong immune system functioning, reduce respiratory problems and asthma linked to stress and anxiety and to relax bronchioles and prevent bronchospasm. Recommended dosage is 15-20 drops two to three times a day every day for adults and one drop per age year of the child two to three times daily. The active ingredients present are *Matricaria recutita*, *Astragalus membranaceus*, *Arsen alb* (C6) and *Phosphorus* (C6). Bio Vent comes in easy to administer drop form and is diluted in about ¼ glass of water or juice¹³.

Drugs used in the homeopathy

There are lots of medicines in homeopathy for asthma and it is not possible to list them all here. Some of the common medicines are *ars-alb*, *ipecac*, *lachesis*, *pulsatilla*, *spongia*, *sulphur*, *ignatia*, *antim-tart*, *hepar-sulph*, *nat-sulph*, *tuberculinum* etc. The selection of medicine varies from patient to patient¹⁴.

***Acalypha indica*:** Cough with bloody expectoration; sometimes violent dry cough precedes the expectoration.

***Ailanthus glandulosa*:** Deep dry and hacking cough, with asthmatic expansion of lungs; cough with headache and congestion of face.

Aletris farinosa: Short, dry and tickling cough worse on waking and talking; discharge of urine during cough; cough suddenly relieved by menstruation.

Aralia racemosa: Cough associated with constriction of chest, worse lying down, after the first sleep, has to sit up and cough violently; asthma, with oppression as from a weight on stomach, worse night on lying down, better by raising a little tough mucus.

Asarium europaeum: Frequent cough followed by difficult breathing; cough caused by deep inspiration.

Blatta orientalis: Asthma associated with bronchitis, suitable for fatty people, cough associated with dyspnoea.

Blumea odorata: Barking like cough controls hoarseness due to cough.

Boerhavia diffusa: Indicated for dry cough as well as cough with whitish thick expectoration.

Ephedra vulgaris: Mother tincture is used to control asthmatic attack; in reduced doses it is also helpful in pulmonary heart disease.

Glycyrrhiza glabra: Used as expectorant; prevents recurrent respiratory infections.

Grindelia: Tenacious mucous difficult to detach.

Justicia adhatoda: Violent cough with tough expectoration and tightness of chest; great fear of suffocation; usually cough associated with vomiting.

Pothos foetidus: Asthma worse from any inhalation of dust. Rumex crispus: Cough usually with headache; worse eating, in the evening and on lying down.

Arsenicum album: A person needing this remedy can feel exhausted, yet be very restless and anxious. Breathing problems tend to be worse while lying down, better when sitting up, and may begin, or be the most intense, between midnight two a.m. Dry wheezing may progress to a cough that brings up frothy whitish fluid. The person can be thirsty, talking frequent tiny sips. General chilliness is usually seen, with burning pains in the chest and heat in the head.

Carbo vegetabilis: This remedy may be indicated when a person feels weak or faint with a hollow sensation in the chest. Coughing jags can lead to gagging. The person may be very cold (especially hands and feet), yet feels a need for moving air, wanting to sit beside a fan or open window. Gas and digestive upset are also likely, and sitting up and burping offers some relief. Feeling worse in the evening, and worse from talking, eating, or lying down are other indications for this remedy.

Chamomilla: Asthma with a dry, hard, irritating cough that starts after being exposed to moving air, or after becoming overexcited and angry, may be helped with this remedy. The cough is often worse around nine p.m. and may continue into the night. The person seems hypersensitive and may be extremely irritable and agitated. (Children may even shriek and hit, though they often calm down if someone carries them.)

Ipecacuanha: Coughing spasms that lead to retching or vomiting strongly indicate this remedy. Wheezing can come on suddenly with a feeling of suffocation and heaviness in the chest. Mucus collects in breathing tubes, but the person has difficulty coughing much out. The person may sweat a lot and feel clammy or nauseous, be worse from motion, and sometimes worse from warmth.

Natrum sulphuricum: This remedy is sometimes indicated when asthma attacks are brought on by exposure to mold and dampness. The person may hold the chest while coughing, because it feels so weak. Wheezing and breathing difficulties are aggravated by exertion, and episodes tend to be worse in the very early morning.

Nux vomica: Indications for this remedy include a tense, constricted feeling in the chest during asthma attacks, with pressure in the stomach. Problems are often worse in the morning. Overindulgence in stimulants, alcohol, sweets, or strong spicy food can bring on or

aggravate an episode. Both physical effort and mental exertion can make things worse, and warmth and sleep often bring relief. A person needing this remedy is typically very irritable and impatient, with a general feeling of chilliness.

Pulsatilla: Wheezing that starts when a person gets too warm (especially in a stuffy room), or after eating rich food, can indicate this remedy. Coughing brings up yellow-colored mucous, with gagging and choking. Tightness in the chest tends to be worse in the evening and at night, and is relieved by cool fresh air. A person who needs this remedy is likely to be changeable and emotional, wanting a lot of attention and comforting. (Pulsatilla is often useful in children's illnesses)

Spongia tosta: A hard or "barking" cough during an asthma attack is a strong indication for this remedy. Breathing can be labored, with a sawing sound, and not much mucus is produced. The person may feel best when sitting up and tilting the head back, or when leaning forward. Warm drinks may be helpful. The problems often start while the person is sleep (typically before midnight).

Homeopathy Dosage Directions

Select the remedy that most closely matches the symptoms. In conditions where self-treatment is appropriate, unless otherwise directed by a physician, a lower potency (6X, 6C, 12X, 12C, 30X or 30C) should be used. In addition, instructions for use are usually printed on the label. Many homeopathic physicians suggest that remedies be used as follows: Take one dose and wait for a response. If improvement is seen, continue to wait and let the remedy work. If improvement lags significantly or has clearly stopped, another may be taken. The frequency of dosage varies with the condition and the individual. Sometimes a dose may be required several times an hour; other times a dose may be indicated several times a day; and in some situations, one dose per day (or less) can be sufficient.

3) NATUROPATHY

Naturopathic Medicine represents the "vitalistic" tradition of medicine in our Western world. That is, it treats disease through the stimulation, increase, and support of the person's inherent healing capacity. These treatments are chosen to work with the patient's vital force, respecting the natural healing processes of nature. The following principles make Naturopathic Medicine different from all other medical approaches^{15,16}:

- First, do no harm; provide the most effective health care available with the least risk to patients at all times (*primum non nocere*).
- Recognize, respect and promote the self-healing power of nature inherent in each individual human being. (*Vis medicatrix naturae*, a form of vitalism).
- Identify and remove the causes of illness, rather than eliminate or suppress symptoms (*Tolle Causam*).
- Educate, inspire rational hope and encourage self-responsibility for health (*Doctor as Teacher*).
- Treat each person by considering all individual health factors and influences. (*Treat the Whole Person*).
- Emphasize the condition of health to promote well-being and to prevent diseases for the individual, each community and our world. (*Health Promotion, the Best Prevention*)

a) Prevention and healing with water

So many common ailments and illnesses can be prevented and possibly even cured with an increased intake of healthy water. Headaches, hypertension, back pain, arthritis, ulcers, asthma, morning sickness and fatigue can all benefit and in many cases be prevented by regulating the body's natural fluid levels. With the proper intake of healthy water, the right minerals and nutrients, our body can overcome almost anything.

Asthma, which affects over 12 million children in North America alone and causes the deaths of several thousand each year, is a

direct result of increased histamine production. Dehydration initiates exaggerated histamine production as a water regulating control. It is well known that asthmatics have excessive levels of histamine in their lung tissue causing constriction of the bronchial passages and increased mucus build up. Water is used in the lungs to keep the tissue moist, but each time we exhale, we expel moisture from our lungs. Under normal hydrated conditions the moisture is rapidly replaced. If we are in a dehydrated state then the tissue inside the lungs begins to coat with mucus to prevent drying. It has been demonstrated in many animal studies that an increase in water intake will reduce histamine levels and over a 2 to 3 week period restore normal hydration to lung tissue and reduce mucus build up. Once this occurs, the bronchial passages begin to open and normal breathing is restored. The same histamine related effects apply to allergies, and again, significant benefits can result from an increased intake of healthy water.

b) Dietary supplements

Antioxidant foods and supplements: Some evidence indicates that having low dietary intake of antioxidant nutrients (vitamins A, C, and E, selenium and other food chemicals) could increase the risk for lung damage. Nutrients obtained from fresh, deep green and yellow-orange fruits and vegetables, which contain other chemicals that might be lung protective. In one study, people who consumed selenium-rich foods (fish, red meat, grains, eggs, chicken, liver and garlic) had a lower risk for asthma. In the same study, eating apples was also associated with protection. (Apples contain important food chemicals called flavonoids.)

Fish oil: Omega-3 fatty acids found in cold water oily fish and in supplements have anti-inflammatory effects and may be helpful for asthma.

c) Immunity boosters

Active immune booster is derived from plantain and banana trees, the world's largest herbs. Based on an "All Natural" philosophy, it concentrates on the 'plant to human transfer' of vital Immune Phytochemicals into the human digestive system. The power of Active Immune Booster is that it is an herbal formula. The end result is a dietary supplement that not only stimulates the immune system but more importantly, it also modulates it.

d) Alternative treatment: supplements

Allergies are the result of an imbalance in the immune system. There are enzymes, fatty acids, herbs, minerals, and vitamins available that can play an important role in maintaining good immune system health, and can sometimes relieve allergic reactions.

Enzymes: Co-enzyme Q10 stimulates the immune system function and is powerful antioxidant. It moves energy throughout the body, increasing the efficiency of cellular metabolism and is also beneficial for allergies, asthma and a lowered immunity. A natural substance, Co-enzyme Q10 is found in all healthy tissue in the body, and not found in diseased or infected ones.

Fatty acids: Essential fatty acids are important to the immune system because they reduce inflammation associated with allergic response by aiding in the production of prostaglandins that counter inflammation.

Herbs: Echinacea stimulates the immune system and may also protect against infection and stimulate tissue repair and healing. An herbal extract derived from the bark of the white oak tree *Quercus alba*, Quercetin is a very safe and effective treatment for all kinds of sinus reactions, including allergies, asthma and hay fever. It stabilizes the membranes of the cells that release histamine which triggers allergic reactions.

Minerals: Calcium and magnesium are important nutrients for the allergy sufferer. They help to relax an over reactive nervous system. Sulfur aids in the treatment of allergies, both environmental allergies (house dust, animal hair, etc.) and with food and drug allergies.

Vitamins: Beta-carotene is used by the body to make vitamin A. It also heals and soothes irritated mucus membranes. Vitamin C's natural antihistamine properties make it a classic allergy treatment. A very powerful antioxidant vitamin E protects the body from free radicals. It alleviates respiratory problems and boosts your immune system's ability to fight off infectious diseases.

e) Yoga for asthma

The asthma and bronchitis patients have to do three things

- Regular practice of selected yoga asana.
- Proper diet.
- Observance to certain principles and advice.

Asanas: Ekpada uttan asana, Sarvang asana, Tada asana, Matsya asana, Yoga mudra, Shava asana, Ushtra asana, Pranayama, Simha asana and Ujjayee pranayama.

Beside the above mentioned asana and pranayama practice of yoga nidra, concentration and meditation gives the best result.

Principles and advice: Asthmatics should follow the following principles and advice in their diet and daily life for their highest good.

- Have dinner at least two hours before going to bed at night but don't over eat and eat slowly and chew the food properly.
- Should drink water after half an hour of finishing their meals and intake ten to twelve glasses of water in a day. Don't drink water upon arising and before going to toilet.
- Avoid hot spices, red pepper and pickles, tea or coffee and tobacco in any form.

Benefits: Asanas and pranayama have corrective, curative and strengthening effects on the condition of the lungs and the bronchiole linings. Pranayama does the internal purification. As we know that air has some fantastic properties like absorbing property. It absorbs certain things as moisture, fragrance and odour. When air is kept in the body for a longer time, it absorbs the impurities of the system and when it is expelled with a force it carries those inner impurities out. Further, when activate and give inner massage to the body cells and organs.

f) Fish treatment

Fish treatment was started by the Bathini Goud family, the therapy has been a secret for the past 156 years. It was given to Veeranna Goud, a toddy vendor, over a century back by a holy man who instructed him to give this free to everybody suffering from asthma. The holy man also blessed a well in the place where the medicine is administered-Doodhbowli, a mile or so away from the historic monument of Charminar in Hyderabad. Only the Goud family knows what goes in the herbal paste. The blessed well in their compound provides water for the mixing of the medicine. At present, three Goud brothers carry out the treatment, strictly in accordance with the practice of their ancestors. Even today, they don't charge or accept any money for the medicine.

There is now an abundance of volunteers in the family who have mastered the technique of administering live fish into the mouths of fearful patients. Die-hard vegetarians can swallow bananas with the paste instead, but the Gouds emphasize the importance of fish. As the fish moves down the windpipe, it opens pores blocked by phlegm, thus making way for the herbal paste. The procedure is simple. Once the patient has swallowed the live fish, three doses of extra medicine is provided, to be taken on three successive auspicious days-Arudra Karthi, Punarvasu Karthi and Pushyami Karthi, which fall every 15 days in a regulated span of 45 days. Apart from this, the patient has to be under strict diet control for 45 days. The diet is probably harder to swallow than the live fish ¹⁷.

Table -1: Classification of Asthma Severity ²⁴

| Asthma Type | Symptoms | Nocturnal Symptoms | Pulmonary Function |
|----------------------------|---|--------------------|--|
| Mild intermittent asthma | <2times/week Asymptomatic between exacerbations Exacerbations brief | <2times/month | FEV1 or PEF > 80% of predicted value PEF variability < 20% |
| Mild persistent asthma | >2times/week <1/day Exacerbations may affect activity | >2times/month | FEV1 or PEF > 80% of predicted value PEF variability 20-30% |
| Moderate persistent asthma | Daily exacerbations affect activity Exacerbations >2 per week May last for days | >1/week | FEV1 or PEF > 60% < 80% of predicted PEF variability >30% |
| Severe persistent Asthma | Continual frequent exacerbations Limited physical activity | Frequent | FEV1 or PEF > 80% of predicted value PEF variability >30% |

Note: FEV1-Forced Expiratory Volume in one second, PEF-Peak Expiratory Flow

Table -2: Alternative Systems of Medicines-Principles ⁷

| System | Causes of Illness | Treatment Strategy |
|--|--|---|
| Ayurveda: 6000 years old System of medicine | Aberrations among three physiological elements or Doshas- <i>vatta, pitta, kapha</i> | Restore the doshas to their equilibrium by life style changes, herbal drugs and minerals. |
| Homeopathy: The law of similar-like cures like governs this system | Imbalance of the body's vital organs | Symptoms are treated with highly diluted preparation of naturally occurring animal, mineral and plant substances. |
| Naturopathy: Self healing-body can heal by it self | Dissent with nature | Fasting, cleaning the body with enemas, yogic exercises, diet supplements and medication. |

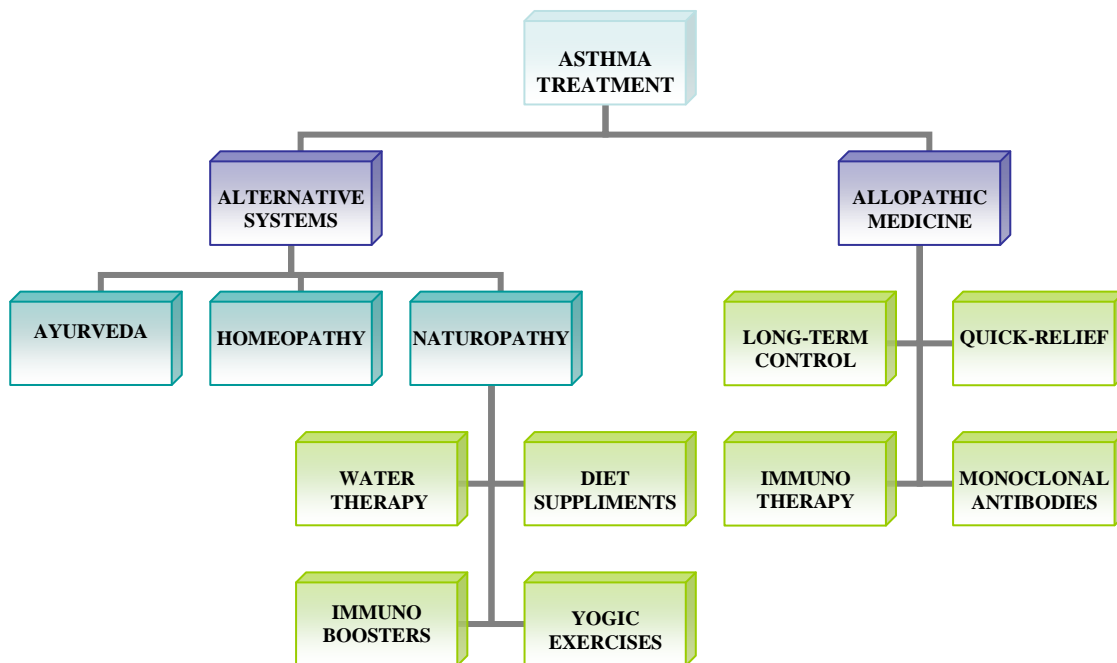


Figure -1: Classification of Different Systems of Medicine for Asthma

II. ALLOPATHIC MEDICINE

A number of individual medications exist for asthma, and many are used in combination with others. In general, the four types of treatments are ^{2, 18, 19, 20, 21, 22, 23}:

- Long-term-control medications. These are used on a regular basis to control chronic symptoms and prevent attacks.
- Quick-relief medications. You use these as needed for rapid, short-term relief of symptoms during an attack.
- Immunotherapy or allergy desensitization shots. These decrease your body's sensitivity to a particular allergen.
- Anti-IgE monoclonal antibodies. These are designed to prevent your immune system from reacting to allergens.

1) Long-term control medications

These medications are taken daily, usually on a long-term basis, to achieve and maintain control of persistent asthma.

a) Inhaled corticosteroids:

These anti-inflammatory drugs are the most effective medications for asthma reduce inflammation in airways and prevent blood vessels from leaking fluid into airway tissues. Corticosteroids help decrease the frequency of attacks and lower the dosage of other medications used to calm the symptoms. Inhaled corticosteroids control most forms of asthma by delivering medication directly to airways; they have a low risk of side effects. Inhaled corticosteroids include fluticasone, budesonide, triamcinolone, flunisolide and beclomethasone. Inhaled corticosteroids may affect some children's growth. If any child is taking these medications, have his or her growth rate regularly monitored. Long-term use of inhaled corticosteroids may slightly increase the risk of skin thinning and bruising.

b) Long-acting beta-2agonists:

These medications are part of a group of medications called bronchodilators, which open up constricted airways. Long-acting beta-2 agonist, such as salmeterol and formoterol are used to control moderate and severe asthma and to prevent nighttime symptoms, and can also be used before exercise or breathe cold air. Salmeterol or formoterol is always combined on a regular schedule with inhaled corticosteroids.

c) Leukotriene modifiers:

These drugs reduce the production or block the action of Leukotriene substances released by cells in lungs during an asthma attack. Leukotrienes cause the lining of your airways to become inflamed, which in turn leads to wheezing, shortness of breath and mucus production. Leukotriene modifiers include montelukast and zafirlukast, used in conjunction with other medications such as inhaled corticosteroids. Leukotriene modifiers may help prevent more attacks. Although these are not as effective as inhaled corticosteroids, Leukotriene modifiers are an option if any one have mild asthma and want to avoid corticosteroids.

d) Cromolyn and nedocromil:

Although these are not effective for everyone, daily use of inhaled Cromolyn or nedocromil may help prevent attacks of mild to moderate asthma. In some cases they may also help prevent asthma triggered by exercise if take them an hour before any vigorous activity.

e) Theophylline:

This bronchodilator is taken in pill form every day. It is especially helpful for relieving nighttime symptoms of asthma. But theophylline may cause side effects, such as nausea and vomiting, severe abdominal pain, diarrhea, acid reflux, confusion, fast or irregular heartbeat, and nervousness. If taking theophylline, get regular blood tests to make sure getting the correct dosage.

2) Quick-relief medications

Quick-relief medications are also called "rescue" medications because they can stop the symptoms of an asthma attack. These medications are taken as needed, but they're most effective if taken when first begin to feel asthma signs and symptoms, such as coughing, wheezing, chest tightness or shortness of breath.

a) Short-acting beta-2 agonists:

These bronchodilators begin working within minutes and last four to six hours. But they can't keep symptoms from coming back. The most common drugs include albuterol and pirbuterol.

b) Oral and intravenous corticosteroids:

These corticosteroids including prednisone, methylprednisolone and hydrocortisone treat acute asthma attacks or very severe asthma. Long-term use of these medications can cause serious side effects, including cataracts, loss of bone mineral (osteoporosis), muscle weakness, decreased resistance to infection, high blood pressure and thinning of the skin.

c) Ipratropium:

Use of this anticholinergic for the immediate relief of asthma symptoms.

3) Immunotherapy

Allergy desensitization shots (immunotherapy) may help to treat the asthma which cannot be easily controlled by avoiding triggers and using medication. It will begin with skin tests to determine the allergens, followed by a series of therapeutic injections containing small doses of those allergens. It includes receiving injections once a week for a few months, then once a month for a period of three to five years. Over time lose sensitivity to the allergens. Immunotherapy is not for everyone. In addition, immunotherapy carries the risk of an allergic reaction to the shot. Life-threatening reactions are rare but possible.

4) Anti-IgE monoclonal antibodies

If any one has allergies, his immune system produces allergy-causing IgE antibodies to attack substances that generally cause no harm, such as pollen, dust mites and pet dander. Omalizumab can reduce the number of asthma attacks experience by blocking the action of these antibodies. That way immune system isn't prompted to react and cause the inflammation that makes breathing difficult.

Keliximab is another monoclonal antibody under investigation that attacks white blood cells called CD4 lymphocytes, which may be critical in the asthmatic inflammatory process.

Interleukins:

Other immune agents under investigation are interleukins, a subgroup of immune factors called cytokines, which are important in the inflammatory process. Interleukins serve many functions in the asthma process, some protective and some destructive. Of particular promise is an agent called soluble IL-4 receptor that blocks interleukin 4 (IL-4), which regulates many of the events in the allergic response. On other hand, researchers are investigating ways of employing other interleukins (as IL-10 and IL-12) that may actually be helpful, because they have anti-allergenic effects.

CONCLUSION

Asthma is a chronic lung disease which has no permanent cure. Alternative medicines are the preventive therapy which has minimal side effects, used in long term therapy. But emergency treatment needs allopathic medicine, which gives quick relief. So survival of asthmatic patients is impossible without using allopathic medicine. The need of the hour is to develop an allopathic system using the principles of alternative approaches to diminish the side effects for treating asthma.

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