

Clinical study of Asthma and Herbal drugs in light of Unani system of Medicine: A Review

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Abstract:

Asthma is a chronic lung disease characterized by episodes of acute broncho constriction 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. Asthma is a dangerous disease of lungs, which was known to mankind from the time of Hippocrates, but its peculiar features identified it. Hippocrates was the first to name this disease as 'panting' which means breathlessness¹. Later on many Unani scholars keenly studied about Asthma and mentioned it in their books. Asthma is a dangerous disease of lungs, which was known to mankind from the time of Hippocrates, but its peculiar features identified it. Hippocrates was the first to name this disease as 'panting' which means breathlessness¹. Later on many Unani scholars keenly studied about Asthma and mentioned it in their books. Asthma is disease of the human respiratory system in which the airways constrict and become narrow, often in response to a "trigger" such as exposure to an allergen, cold air, exercise or emotional stress. Due to rapid industrialization and urbanization, asthma prevalence is predicted to increase more rapidly in the coming years. Despite the availability of a wide range of drugs for the treatment of asthma, the relief offered by them is mainly symptomatic and short lived. Moreover the side effects of these drugs are also quite disturbing. Medicinal plants have been known for millennia and are highly esteemed all over the world as a rich source of therapeutic agents for the prevention of diseases and ailments. The importance of herbal medicine in the treatment of asthma is indisputable.

KEYWORDS: Asthma, Treatment and management in Unani system of medicine, Herbal drugs.

I. Introduction and History of Asthma.

Asthma is a long-term disease of the lungs. It causes your airways to get inflamed and narrow, and it makes it hard to breathe. Severe asthma can cause trouble talking or being active. You might hear your doctor call it a chronic respiratory disease. Some people refer to asthma as "bronchial asthma." Asthma is a serious disease that affects about 25 million Americans and causes nearly 2 million emergency room visits every year. With treatment, you can live

well. Without it, you might have to go to the ER often or stay at the hospital, which can affect your daily life.

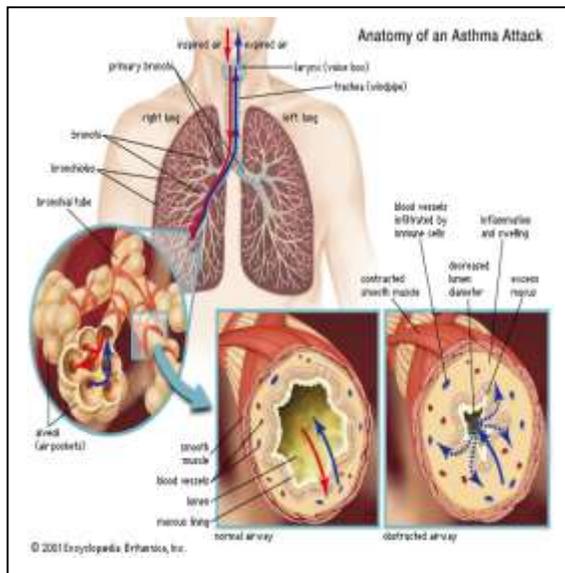


Fig. 1 Anatomy of Asthma Attack

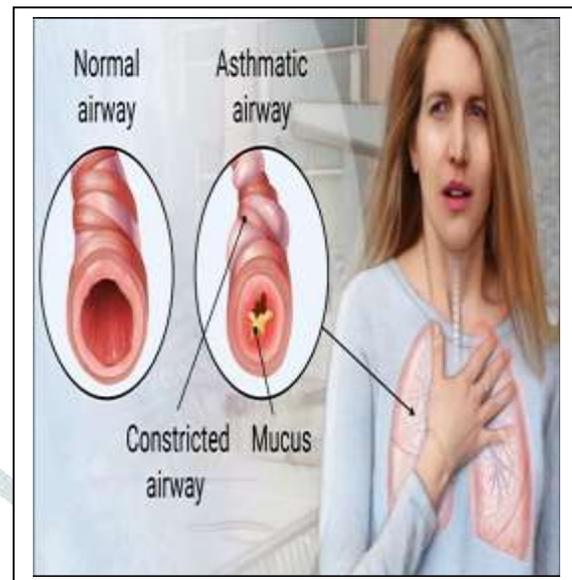


Fig. 2 Normal and Asthmatic Airway

“Asthma” is a Greek word derived from the verb “aazein” which means to exhale with open mouth and to pant. Buqraat (Hippocrates- a Greek physician) was the first to name this disease as ‘panting’ which means breathlessness. Later on many Unani scholars keenly studied about Asthma and mentioned it in their books. Zeeq-un- nafas sho’abi (Bronchial Asthma) is a chronic lung disease characterized by episodes of acute bronchoconstriction causing shortness of breath, cough, chest tightness, rapid respirations and wheezing (appreciated on auscultation of the chest is the most common physical finding). In other words it is chronic inflammation of the bronchial tubes (airways) that cause swelling and narrowing (constriction) of the airways. It is a disease that affects the lungs by allergies or infections resulting in narrowing of airways which causes difficulty in breathing and cough. It is a well-known hypersensitivity disorder characterized by ventilator insufficiency.

In many asthma patients, timing of the symptoms of disease is closely related to physical activity. Even, some healthy people can develop asthma like symptoms only when exercising. This is called exercise-induced asthma (EIA) or exercise-induced bronchoconstriction (EIB). The disease is influenced by multiple genetic developmental and environmental factors. It affects over 300 million people around the world. One in every four urban children is asthmatic. Current estimates suggest that 300 million people worldwide suffer from Bronchial Asthma and in addition 100 million may be diagnosed with Bronchial Asthma by 2025. An increasing prevalence and severity of asthma has been reported worldwide. Unani scholars are well known about it since last 3500 years, where asthma like symptoms were recorded in an Egyptian Manuscript called “Eberus Papyrus”. At present asthma has spread globally. It affects approximately 4% of the total world population. The affected people belong to various age groups, but children and elders are more prone.

Asthma is described with different names in Unani literature as Rabu, Buhar, Zeeq-al- nafas, Dama and Intesab- al- nafas. It is defined in the books of almost every renowned Unani scholar like Hippocrates/ Buqraat (460 BC), Galen/ Jalinoos (130-200 AD), Rabban Tabri (810-875 AD), Ibn-e- sina (980-1037), Zakariya Razi (860- 932 AD) and Ismail Jurjani (Death 1140 AD). Unani physicians believed that asthma is caused by thick Phlegm (Ghaleez khilt or balgham-e- ghaleez) which is adhered on the bronchial mucosa to develop narrowing of the lumen. They also mentioned that due to narrowing of bronchial lumen, air becomes incapable to enter into the lungs during inspiration and to fulfil the deficit of air (O₂) the subject is compelled to breathe rapidly. The rapidity of the breathing depends upon the severity of the disease. Some Unani scholars like, Ali Ibn-e- Abbas Majoosi, Ismail Jurjani and Rabban Tabri, described that asthma is caused by cold and dilute fluid (Barid and Raqeeq khilt). They also described that such fluid develops more severe form of breathlessness. Tabri (810-875 AD), stated that asthma is a name of thick fluid (Balgham- ghaleez) which is adhered on the inner layer of bronchioles and develops narrowing of the airways, resulting in hypoventilation of the lungs and ultimately breathlessness. Hussain MA, stated in his book, Moaleja-e-Nafissi that asthma is caused by concentrated and unhealthy cold fluids (Ghaleez wa barid ratoobaat). He emphasized that fluids may be phlegm (Balgham) or balck bile (Sauda) or both. The most scientific description regarding the aetiology of asthma was given by Ali Ibn-e- Abbas Majoosi (930- 994 AD), he stated that asthma is caused by bronchospasm. According to Ibn-e- Sina as described in his famous book Al-Qanoon Fil-Tib, when there is difficulty in the passage of air during respiration due to spasm in air passage, it is called Zeequn Nafas. Abu Bakar Muhammad Bin Zakariya Razi gave first description of status asthmaticus (a severe condition in which asthma attacks follow one another without pause). He described most severe form of asthma as Intesab- un- Nafas. Many Unani scholars have described asthma in their own way but Ajmal Khan was the first Unani scholar to define asthma as: It is a dreadful and discomfortable disease whose treatment is very difficult. It is characterized by bronchospasm resulting in breathlessness.

II. Sign and Symptom of Asthma.

Asthma is marked by inflammation of the bronchial tubes, with extra sticky secretions inside the tubes. People with asthma have symptoms when the airways tighten, inflame, or fill with mucus.

There are three major signs of asthma:

1. **Airway blockage.** When you breathe as usual, the bands of muscle around your airways are relaxed, and air moves freely. But when you have asthma, the muscles tighten. It's harder for air to pass through.
2. **Inflammation.** Asthma causes red, swollen bronchial tubes in your lungs. This inflammation can damage your lungs. Treating this is key to managing asthma in the long run.
3. **Airway irritability.** People with asthma have sensitive airways that tend to overreact and narrow when they come into contact with even slight triggers.

These problems may cause symptoms such as:

1. Coughing, especially at night or in the morning
2. Wheezing, a whistling sound when you breathe
3. Shortness of breath

4. Tightness, pain, or pressure in your chest
5. Trouble sleeping because of breathing problems

Not every person with asthma has the same symptoms in the same way. You may not have all of these symptoms, or you may have different symptoms at different times. Your symptoms may also vary from one asthma attack to the next, being mild during one and severe during another. Some people with asthma may go for long periods without having any symptoms. Others might have problems every day. In addition, some people may have asthma only during exercise or with viral infections like colds. Mild asthma attacks are generally more common. Usually, the airways open up within a few minutes to a few hours. Severe attacks are less common but last longer and require medical help right away. It is important to recognize and treat even mild asthma symptoms to help you prevent severe episodes and keep asthma under better control.

Get medical help right away if you have serious symptoms including:

1. Fast breathing
2. Pale or blue face, lips, or fingernails
3. The skin around your ribs pulls inward when you breathe in
4. Trouble breathing, walking, or talking
5. Symptoms that don't get better after you take medication

III. Asthma Attack.

An asthma attack is the episode in which bands of muscle around the airways are triggered to tighten. This tightening is called bronchospasm. During the attack, the lining of the airways becomes swollen or inflamed, and the cells lining the airways make more and thicker mucus than normal. All of these things -- bronchospasm, inflammation, and mucus production -- cause symptoms such as trouble breathing, wheezing, coughing, shortness of breath, and trouble with normal daily activities.

Other symptoms of an asthma attack include:

1. Severe wheezing when breathing both in and out
2. Coughing that won't stop
3. Very rapid breathing
4. Chest pain or pressure
5. Tightened neck and chest muscles, called retractions
6. Difficulty talking
7. Feelings of anxiety or panic
8. Pale, sweaty face
9. Blue lips or fingernails

An asthma attack can get worse quickly, so it's important to treat these symptoms right away. Without immediate treatment, such as with your asthma inhaler or bronchodilator, it will become harder to breathe. If you use a peak flow meter at this time, the reading will probably be less than 50%. Many asthma action plans suggest interventions starting at 80% of normal. As your lungs continue to tighten, you won't be able to use the peak flow meter at all.

Your lungs will tighten so there is not enough air movement to make wheezing. You need to go to a hospital right away. Unfortunately, some people think that the disappearance of wheezing is a sign of improvement and don't get emergency care. Without proper treatment, over time, you may be unable to speak and will get a bluish coloring around your lips. This color change, known as cyanosis, means you have less and less oxygen in your blood. It can cause a loss of consciousness and death. If you have an asthma attack, follow the "Red Zone" or emergency instructions in your asthma action plan right away. These symptoms happen in life-threatening asthma attacks. You need medical attention right away.

IV. Classification of Asthma.

Doctors rank how bad asthma is by its symptoms:

1. **Mild intermittent asthma.** Mild symptoms less than twice a week. Nighttime symptoms less than twice a month. Few asthma attacks.
2. **Mild persistent asthma.** Symptoms three to six times a week. Nighttime symptoms three to four times a month. Asthma attacks might affect activities.
3. **Moderate persistent asthma.** Symptoms three to six times a week. Nighttime symptoms three to four times a month. Asthma attacks might affect activities.
4. **Severe persistent asthma.** Ongoing symptoms both day and night. You have to limit your activities.

Your asthma may be getting worse if:

- You have symptoms more often and they interfere more with your daily life.
- You have a hard time breathing. You can measure this with a device called a peak flow meter.
- You need to use a quick-relief inhaler more often.

V. Types of Asthma

There are several:

1. **Adult-onset asthma.** Asthma can start at any age, but it's more common in people younger than 40.
2. **Status asthmatics.** These long-lasting asthma attacks don't go away when you use bronchodilators. They're a medical emergency that needs treatment right away.
3. **Asthma in children.** Symptoms can vary from episode to episode in the same child. Watch for problems like:
 - Coughing often, especially during play, at night, or while laughing. This may be the only symptom.
 - Less energy or pausing to catch their breath while they play
 - Fast or shallow breathing
 - Saying their chest hurts or feels tight
 - A whistling sound when they breathe in or out
 - Seesaw motions in their chest because of trouble breathing
 - Shortness of breath
 - Tight neck and chest muscles
 - Weakness or fatigue

4. **Exercise-induced bronchoconstriction.** You might hear this called exercise-induced asthma. It happens during physical activity, when you breathe in air that's drier than what's in your body, and your airways narrow. It can affect people who don't have asthma, too. You'll notice symptoms within a few minutes after you start to exercise, and they might last 10 to 15 minutes after you stop.
5. **Allergic asthma.** Things that trigger allergies, like dust, pollen and pet dander, can also cause asthma attacks.
6. **Non-allergic asthma.** This type flares in extreme weather. It could be the heat of summer or the cold of winter. It could also show up when you're stressed or have a cold.
7. **Occupational asthma.** This usually affects people who work around chemical fumes, dust, or other irritating things in the air.
8. **Eosinophilic asthma.** This severe form is marked by high levels of white blood cells called eosinophils. It usually affects adults between 35 and 50 years old.
9. **Nocturnal asthma.** Your asthma symptoms get worse at night.
10. **Aspirin-induced asthma.** You have asthma symptoms when you take aspirin, along with a runny nose, sneezing, sinus pressure, and a cough.
11. **Cough-variant asthma.** Unlike with other types, the only symptom of this kind of asthma is a long-term cough.

VI. Asthma Causes and Triggers

When you have asthma, your airways react to things in the world around you. Doctors call these asthma triggers. They might cause symptoms or make them worse. Common asthma triggers include:

1. Infections like sinusitis, colds, and the flu
2. Allergens such as pollens, mold, pet dander, and dust mites
3. Irritants like strong odors from perfumes or cleaning solutions
4. Air pollution
5. Tobacco smoke
6. Exercise
7. Cold air or changes in the weather, such as temperature or humidity
8. Gastroesophageal reflux disease (GERD)
9. Strong emotions such as anxiety, laughter, sadness, or stress
10. Medications such as aspirin
11. Food preservatives called sulfites, found in things like shrimp, pickles, beer and wine, dried fruits, and bottled lemon and lime juices

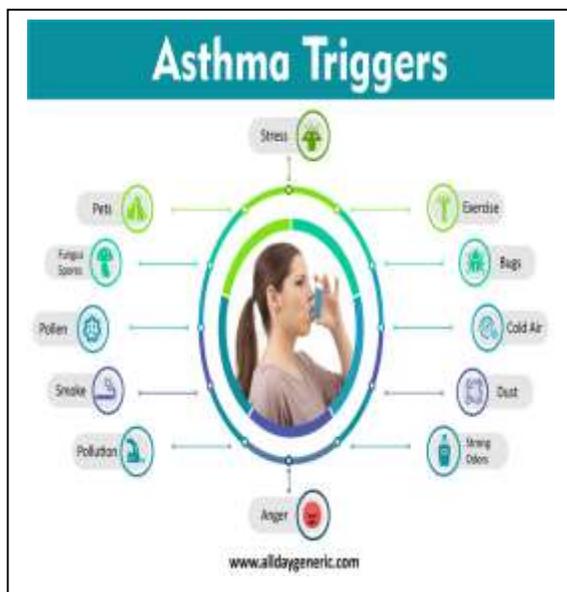


Fig. 3 Asthma Triggers

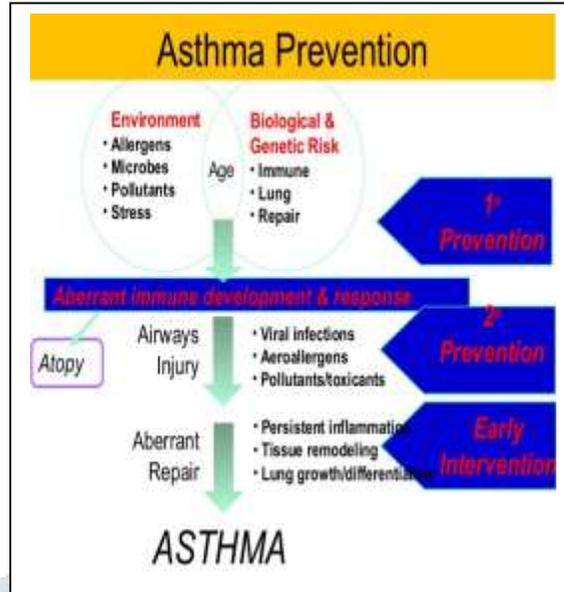


Fig. 4 Preventions of Asthma

VII. Factor associated for Asthma.

1. Pregnancy

According to one study, smoking during pregnancy appears to increase the risk of the fetus developing asthma later in life. Some women also experience an aggravation of asthma symptoms while pregnant.

2. Obesity

One article from 2014 suggested that there seem to be higher levels of asthma in people with obesity than those without it. The authors note that, in one study, children with obesity who lost weight also saw improvements in their asthma symptoms. There is now a growing body of evidence suggesting that both conditions involve a chronic inflammatory response, and this could explain the link.

3. Allergies

Allergies develop when a person's body becomes sensitized to a specific substance. Once the sensitization has taken place, the person will be susceptible to an allergic reaction each time they come into contact with the substance. Not every person with asthma has an allergy, but there is often a link. In people with allergic disease, exposure to specific allergens can trigger symptoms.

One 2013 study found that 60–80% of children and young adults with asthma are sensitive to at least one allergen.

4. Cigarette Smoking and tobacco

Cigarette smoking can trigger asthma symptoms, according to the American Lung Association. Asthma, even without smoking, can cause damage to the lungs. This can increase the risk of developing various tobacco-related lung conditions, such as chronic obstructive pulmonary disease, and it can make symptoms more severe.

5. Environmental factors

Air pollution, both inside the home and outside of it, can affect the development and triggers of asthma. Some allergens inside the home include:

- Mold
- Dust
- Animal hair and dander
- Fumes from household cleaners and paints
- Cockroaches
- Feathers

Other triggers in the home and outdoors include:

- Pollen
- Air pollution from traffic and other sources
- Ground-level ozone

6. Stress

Stress can give rise to asthma symptoms, but so can several other emotions. Joy, anger, excitement, laughter, crying, and other emotional reactions can all trigger an asthma attack.

Scientists have also found evidence to suggest that asthma may be more likely in people with mental health conditions such as depression.

7. Genetic factors

There is evidence to suggest that asthma runs in families. Recently, scientists have mapped out some of the genetic changes that may play a role in its development.

In some cases, epigenetic changes are responsible. These occur when an environmental factor causes a gene to change.

8. Hormonal factors

Around 5.5% of males and 9.7% of females have asthma. In addition, symptoms may vary according to a female's reproductive stage and point in the menstrual cycle. During their reproductive years, symptoms may worsen during menstruation, compared with other times of the month. Doctors call this premenstrual asthma. During menopause, however, asthma symptoms may improve. Some scientists believe that hormonal activity may impact immune activity, resulting in hypersensitivity in the airways.

VIII. Risk Factors of Asthma.

Things that might make you more likely to have asthma include:

- Things in the world around you before you're born or while you're growing up
- Whether your parents have asthma, especially your mother
- Your genes
- Your race. Asthma is more common in people of African American or Puerto Rican descent.

- Your sex. Boys are more likely to have asthma than girls. In teens and adults, it's more common in females.
- Your job
- Other conditions like lung infections, allergies, or obesity.

XI. Diagnosis of Asthma.

If you think you have asthma, see your doctor. They'll refer you to an asthma specialist, also known as a pulmonologist.

The doctor will start with a physical exam and ask about your symptoms and medical history.

You'll have tests to see how well your lungs work, including:

- **Spirometry.** This simple breathing test measures how much air you blow out and how fast.
- **Peak flow.** These measure how well your lungs push out air. They're less exact than spirometry, but they can be a good way to test your lungs at home, even before you feel any symptoms. A peak flow meter can help you figure out what makes your asthma worse, whether your treatment is working, and when you need emergency care.
- **Methacholine challenge.** Adults are more likely to have this test than children. You might get it if your symptoms and spirometry test don't clearly show asthma. During this test, you inhale a chemical called methacholine before and after spirometry to see if it makes your airways narrow. If your results fall at least 20%, you have asthma. Your doctor will give you medicine at the end of the test to reverse the effects of the methacholine.
- **Exhaled nitric oxide test.** You breathe into a tube connected to a machine that measures the amount of nitric oxide in your breath. Your body makes this gas normally, but levels could be high if your airways are inflamed.

Other tests you might get include:

- **Chest X-ray.** It isn't an asthma test, but your doctor can use it to make sure nothing else is causing your symptoms. An X-ray is an image of the inside of your body, made with low doses of radiation.
- **CT.** This test takes a series of X-rays and puts them together to make a view of your insides. A scan of your lungs and sinuses can identify physical problems or diseases (like an infection) that may cause breathing problems or make them worse.
- **Allergy tests.** These can be blood or skin tests. They tell if you're allergic to pets, dust, mold, and pollen. Once you know your allergy triggers, you can get treatment to prevent them -- and asthma attacks.
- **Sputum eosinophils.** This test looks for high levels of white blood cells (eosinophils) in the mix of saliva and mucus (sputum) that comes out when you cough.

IX. Management / Treatment (Elaaj)

In Unani system of medicine treatment of the diseases of known etiology is based on administration of drugs having actions contrary to etiological changes i.e. known as Ilaj-Bil- Zid. According to this principal of treatment, Unani scholars have designed various formulations comprising of drugs with hot and dry temperament for asthma which temperament is cold and moist. Some commonest tips are:

X. Precautionary Measures (Ehtiyaati Tadaabeer)

Avoid exposure to the precipitating factors. Find out what triggers your asthma, and get rid of things that bother you at home and work. Exposure to cold should be avoided.

1. Drink plenty of water, 8 to 10 glasses a day, to keep secretions loose.
2. Keep your bedroom allergen-free. Sleep with a foam or cotton pillow, don't use feather pillow.
3. Wear a dust filter mask when you go out in dust and allergen contact. Allergens and other substances liable to provoke attacks of asthma are to be avoided.
4. Wear a scarf around your mouth and nose in cold weather. Doing so will warm the air as you breathe in and will prevent cold air from reaching sensitive airways.
5. Sit up straight or bend forward, during an asthma attack. Do not lie down.
6. The patient may require hospitalization if he complains of uncontrolled bouts of coughing or wheezing, chest tightness or pressure and intense breathing difficulty.
7. During an acute attack, a hot chest and shoulder pack must be given repeatedly every half an hour. It gives the quickest and most satisfactory relief. It will have a sedative effect upon the nerves and a relaxing influence generally.
8. Hot milk or hot water when sipped little by little, provides immediate relief from the attack.
9. Try steam inhalation, for an acute asthma attack. Add a few drops of eucalyptus oil in a bowl of hot water. Cover your head and the bowl with a towel.
10. Avoid milk products like curd, buttermilk and fruits like bananas, guavas and fried foods.

XI. Some common Prescriptions and Unani Homemade Remedies

- I. A combination of leaves of Arusa (*Adhatoda vasica* Nees), fruits of Filfil Daraz (*Piper longum* Linn.), and roots of Kutki (*Picrorhiza kurroa*), flowers of Zufa (*Hyosscopus officinalis* Linn.) and seeds of Kataan (*Linum usitatissimum* Linn.) is found to be very effective with a good response in chronic patients of bronchial asthma. In mild and moderate asthma the drug has shown significant symptomatic relief.
- II. Prepare a decoction with the equal parts of root of Arusa (*Adhatoda vasica*), rhizome of Turmeric (*Curcuma longa*), stem of Giloe (*Tinospora cordifolia*) and the fruit of Katai (*Solanum surattense* Burm. F. Syn.: *S. xanthocarpum* Schrad. & Wendl.). Take this decoction 20 ml internally, with one gram of powdered Filfil (*Safaid/Siyah* (*Piper nigrum* Linn.)) twice a day.
- III. A creeping plant known as somalata (*Sarcostemma acidum* (Roxb.) Voigt Syn.: *S. brevistigma* Wight & Arn. / *Ephedra gerardiana* Wall.) is found to be highly efficacious in relieving asthma. After drying in the shade, make the powder from the whole plant. Mix it with honey or water and use at the intervals of 4 to 8 hours.
- IV. Attack of asthma may subside by the use of powder of *Piper longum* Linn. (Filfil Moya/Fasiwarees/Filfil Daraz) along with pure honey.

- V. The rhizomes of *Curcuma longa* (Zard Chob/Haldi/ Urooq al Sufir/Urooq al Asfar/ Urooq al Zafraan) are to be baked in hot sand slightly and made into fine powder. This is to be taken 3 grams twice a day with sugar. The dose can be increased up to 10 grams in due course. This is very effective remedy available in every kitchen.
- VI. Drink some hot water with the juice of one clove of garlic. It is very effective in acute attack of asthma.
- VII. Take a tea spoonful of Sarason ka tel (*Brassica rapa* Linn. Syn.: *B. campestris* Linn.) Along with jaggery, twice a day. It is a good remedy of asthma

XII. Treatment of Asthma by Herbal Drugs.

Kutki (*Picrorrhiza kurroa*)

It is a small herb with tuberous roots that is used in medicine for the treatment of various conditions including lung diseases such as asthma and bronchitis. In a randomized, crossover, double blind trial used *P kurroa* to treat 72 patients aged 14–60 years suffering from bronchial asthma over a 14 week period. The main outcome parameters were lung function tests including FEV1 and daily diary symptom scores. There was no significant change in any of the parameters measured.



Fig. 5 Herbal drugs for Asthma



Fig. 6 Various Herbs for Asthma

Katai Khurd (*Solanum xanthocarpum*)

As a powder of the whole dried plant or decoction are widely used to treat respiratory disorders by practitioners of the Siddha system of medicine in Southern India. Sixty adult patients with bronchial asthma were randomised in a four-arm study. Lung function tests were performed before and two hours after drug administration. FEV1 was significantly increased above baseline levels in all groups ($p < 0.01$). *S xanthocarpum* and *S trilobatum* increased FEV1 by 65% and 67%, respectively, at two hours but this effect was less than with conventional drugs.

Kundur (*Boswellia serrata*)

The gum resin of *B serrata* is known in as Salai guggal and contains boswellic acids which have been shown to inhibit leukotriene biosynthesis. In a six week, double blind, randomized clinical trial of 80 adult patients with bronchial asthma Gupta and co- workers compared the effect of *B serrata* gum resin with placebo (lactose). The authors reported a significant increase in FEV1 in the *B serrata* group compared with placebo ($p < 0.0001$).

Antamul (*Tylophora indica*)

T. Indica is a plant indigenous to India and reputed to be able to provide relief to patients with bronchial asthma. **Five randomized clinical trials** have been published on the use of *T indica* in the treatment of asthmatic symptoms.

Indian Walnut (*Aleurites moluccana*)

Another plant-based medicine used for the treatment of asthma is *Aleurites moluccana*, a native tree of Indonesia and India which has been used in traditional remedies not only for the treatment of asthma but for pain, fever and headaches. More recently, the anti-nociceptive effects of *A. molluccana* and its mechanical anti-hypersensitivity properties have been investigated. *A. mollucanna* has also been found to possess antiviral and antimicrobial properties demonstrating how the presence of multiple active compounds in plant extracts can have several benefits to patients. Due to this historical link between *A. mullucanna* and anti-nociceptive and anti-inflammatory therapies, *A. mullucanna* extracts have been used to produce analgesic and anti-inflammatory phytomedicines. The major focus of this work was on the wound healing effects of *A. mollucanna* extracts, although the use of this plant in traditional remedies for asthma suggests that there is a possibility for the active compounds of *A. mullucanna* to be adapted to produce a phytomedicine for asthma and its related symptoms.

Klonji (*Nigella sativa*)

A plant native to South East Asia is known for its relaxant effect on smooth muscle tissue. In addition, Boskabady and colleagues have demonstrated that extracts and oils from *N. sativa* have inhibitory effects on histamine (H1) receptors, stimulatory effects on β -adrenergic receptors and anti-tussive effects. In study showed significant difference in measure of FEV, for Mai- Men-Dong – Tang, *Boswellia* and TJ-96-Saiboku -to, in PEFR for *Boswellia* and Pycngenol (French Maritime pine bark extract) in children, and FVC for *Boswellia*. 1.8 -cineol (eucalyptol) reported a significant reduction in oral steroid dose and a significant difference in number of patients tolerating a 5 mg reduction in steroids. Improvement in symptom or symptom scores against placebo were demonstrated in studies of 1.8 cineol (eucalyptol), ginger (dyspnea, wheeze and chest tightness), pulmoflex (patients experiencing a deterioration) pycnogenol in children but not in adults and Liu- Wi-Di – Huang – Wan and Shen- Ling – Bai – Shu- San. There were higher rates of >50% improvement in placebo sign scores for *Tylophora indica* compared with placebo after one week and 12 weeks reported by one study.

Mountain Knot Grass (*Aerva lanta*)

Aerva lanta is an erect or prostrate herbaceous common wayside weed which is recognized by its white axillary bunches of small woolly flowers. It is abundant on the plains in the warmer parts of India. Ethanol extract of aerial parts of *A. lanata* at 100 µg/mL in the isolated goat tracheal chain preparation model and 30 and 60 mg/kg doses orally in clonidine-induced catalepsy and mast cell degranulation in mice possesses antiasthmatic activity.

Kasondi (*Cassia sophera*)

Cassia sophera (*C. sophera*) is used in traditionally for treatment of asthma and bronchitis. Chloroform, ethyl acetate and ethanol fractions isolated from ethanol extract of leaves of *C. sophera* possesses significant antiasthmatic activity in carrageenan induced paw edema, histamine induced bronchoconstriction, clonidine and haloperidol induced catalepsy, milk induced leukocytosis, and eosinophilia and passive paw anaphylaxis animal models at doses 250, 500 and 750 mg/kg and this activity may be due to presence of flavonoids.

Crinum (*Crinum glaucum*)

Crinum glaucum (*C. glaucum*) is popular in Yoruba of South West Nigeria. Traditional medicine practitioners reported it as an effective remedy in the relief of cough, asthma and convulsions. The aqueous extract of *C. glaucum* possesses antiallergic activity at dosed 100-400 mg/kg by reduction in area of dye leakage in passive cutaneous anaphylactic reaction, protecting degranulation of mast cell and histamine induced bronchoconstriction in the guinea pig

Katphala (*Myrica esculent*)

Myrica esculenta is commonly known as Katphal. It is used for treatment of asthma and bronchitis in ayurvedic system of medicine. Patel et al. reported antiallergic and anti-inflammatory activity of ethanol extract of aerial parts using acetic acid induced vascular permeability and allergic pleurisy in mice methods at doses 75 and 150 mg/kg. Stem bark of this plant possesses bronchodilator and anti-anaphylactic activity by inhibiting acetylcholine induced bronchospasm in guinea pigs, egg albumin induced anaphylaxis in guinea pigs at dose 75 mg/kg and by relaxing histamine and acetylcholine induced guinea pig trachea and ileum.

XIII. Home remedies

Medication will probably be key to getting your asthma under control, but you can do some things at home to help.

- Avoid asthma triggers.
- Exercise regularly.
- Stay at a healthy weight.
- Take care of conditions that can trigger symptoms, such as GERD.
- Do breathing exercises to ease symptoms so you need less medication.
- Some people use complementary treatments such as yoga, acupuncture, bio feedback , or supplements like vitamin C and ding chuan tang. Talk to your doctor before trying any of these.



Fig. 7 Turmeric (Haldi) as Anti-Asthma



Fig. 8 Ginger (Zanjabeel) as Anti-Asthma

1. Turmeric(Haldi)

You may already have this bright yellow spice in your pantry for cooking flavorful curries and other dishes. Turmeric gets its color from curcumin. This natural coloring agent can also reduce inflammation. Turmeric may help with arthritis and even cancer. In relation to asthma, one study Trusted Source followed 77 participants with mild to moderate asthma who took curcumin capsules for 30 days. Researchers found that the supplement helped reduce airway obstruction and could be a helpful complementary treatment for asthma. Note that this is only one small study, and more research is needed to determine the benefits and risks.

2. Ginseng and garlic (Lahsun)

Ginseng and garlic are common herbs and available in a variety of supplement forms. Ginseng is a plant from Asia that some people claim to have many health benefits Trusted Source, including the improvement of respiratory conditions. Garlic is also thought to have significant health benefits Trusted Source like reducing cholesterol and blood pressure. A small study Trusted Source done on rats connected the use of ginseng and garlic to the reduction of asthma symptoms. The study exposed rats to a substance that affects the lungs. The researchers gave some of the rat's ginseng and garlic during the exposure. Those given the herbs had decreased symptoms and inflammation as opposed to the other group. Still, more research on humans is needed to prove the effectiveness of these herbs.

3. Chinese herb combinations

In the last few decades, researchers have studied the effectiveness of herbal combinations from traditional Chinese medicine for asthma. The combination called anti-asthma herbal medicine intervention (ASHMI) is one of them. This blend includes lingzhi (a mushroom), gan cao (licorice root), and ku shen (sophora root). Some claim that this combination of herbs can reduce airway constriction and inflammation, and keep your cortisol levels up, unlike steroid medications. Some studies have examined the effectiveness of ASHMI. One study on mice concluded Trusted Source that the herbal combination helped relieve asthma symptoms. In another study

Trusted Source, researchers looked at the effectiveness of ASHMI among 20 non-smoking participants with asthma. They found that ASHMI appeared to be safe, and participants tolerated the herbs well. There are other combinations of Chinese herbs that may be helpful in treating asthma, such as modified Mai Men Dong Tang. A study Trusted Source of 100 participants with mild-to-moderate asthma noted that this herbal combination improved symptoms with no side effects. All participants used traditional Western asthma medications during the study in combination with the herbs. Research is lacking, though, as many of these studies are done on animals or with small groups of participants.

4. Black seed (Shoneez, Klonji)

This spice is also known as *Nigella sativa*. Some studies Trusted Source suggest that it has medicinal benefits, including reducing asthma symptoms. One study Trusted Source examined prior research on black seed and asthma to assess its effectiveness. The study concluded that prior research shows black seed may help asthma symptoms, inflammation, and airway function. It also emphasized the need for more research.

5. Honey (Shahed , Asal)

This sweet and natural substance may help different aspects of your asthma. Honey can smooth your airways and decrease the tickle that causes you to cough. Adults can take two teaspoons of honey at night to reduce a cough. You can even infuse honey with herbs like turmeric to ease your symptoms more. Honey has been shown to help asthma symptoms in rabbits. In one study Trusted Source, researchers gave honey converted into a gas to 40 rabbits and found their asthma symptoms lessened. Still, this doesn't mean honey can help asthma symptoms in humans. Further research is needed to determine if this method of dispensing honey can help people with asthma.

IVX. Conclusion:

Asthma is a chronic lung disease with no permanent cure. Allopathic medicines give quick relief, but produce a lot of side effects. Alternative systems of medicines are meant for the preventive and long term therapy with minimal side effects. Holistic treatment could be the solution for treating asthma with minimal side effects. Substantial scientific evidence is not available on these therapies and further trials need to be conducted to prove their efficacy and encourage the patients to use the holistic approach in the management of asthma. As a conclusion of this review we can say that there are many advantages for herbal medicine that can cure asthma. The studies have showed and proved many herbs or traditional methods like CAM (complementary and alternative medicines) have showed significant increase in effect of treating the asthma. Therefore it is necessary for all Clinicians to be aware of high prevalence of herbal and Unani interventions available for asthmatics other than using contemporary methods which include the use of steroids and bronchodilators that will give adverse side effects. Many synthetic drugs are used to treat asthma, but they are not completely safe for long term use. Nature has bestowed our country with an enormous wealth of medicinal plants; therefore India has often been referred to as the Medicinal Garden of the world. Scientifically explored exhaustive reports published in Indian and international journals suggest the importance of herbal medicine in the treatment of asthma is indisputable.

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