

## Management of Bronchial Asthma: Naturopathy and Yoga Perspective

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### Abstract

This article is aimed at the educating the patients, relatives and alternative therapist on the scope of management of Bronchial Asthma through Nature Cure and Yoga Therapy. Bronchial Asthma here means intrinsic (infective or degenerative) asthma, not the allergic and cardiac asthma. The physician diagnoses bronchial asthma on the basis symptoms (gasping of breath, coughing, wheezing, etc.) and signs (temperature, heart rate, breathing rate, etc.) and tests like x-ray: PA view. Causative factors of bronchial asthmas include poor immune system, history of tuberculosis, pneumonia, bronchitis, etc. Along with life style factors like poor and unhealthy diet, lack of exercise, inadequate ventilation, poor posture, etc.). Mild to moderate degree of asthma can be managed and prevented through Naturopathy and Yoga techniques along with healthy life style changes.

**Keywords:** Bronchial; Asthma; Intrinsic; Extrinsic; Hydrotherapy; Colour Therapy; Naturopathy and Yoga Therapy.

### INTRODUCTION

**E**tymology: The actual term Asthma is a Greek word derived from the verb 'aazein', which means to exhale with an open mouth or pant or short drawn breathing.

*Conceptual Clarification:* Asthma is primarily a disease of the respiratory system. There are various ways of categorizing asthma, depending on intensity, duration, causative factors, etc. For example, based on power and period, acute and

chronic asthma, and the causative factors *extrinsic* (allergic) and *intrinsic* (infective or degenerative) asthma. The patients with intrinsic asthma do not seem to have an allergic background but develop the disease because of some pre-existing condition of the lungs. This type of asthma usually occurs later in life, and patients do not respond well to anti - allergic treatment. In other perspective, asthma is also categorized into *bronchial asthma*, and *cardiac asthma*. While the trouble causes bronchial asthma is in the bronchi (air passages in the lungs), cardiac asthma is caused by heart failure. Here, asthma means the bronchial intrinsic asthma, not extrinsic (allergic) and cardiac asthma. In the *Principles and Practice of Medicine*, Sir Stanley Davidson<sup>1</sup> asserted that "Bronchial asthma is characterized by paroxysms of dyspnoea accompanied by wheezing, resulting from temporary narrowing of the bronchi by muscle spasm, mucosal swelling or viscid secretion."

*Anatomy of Asthma:* The main organs of the respiratory system are the two lungs, situated in

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the thoracic cage. Functionally, the lungs are elastic bags somewhat similar to rubber balloons. They are inert organs, i.e., there are no muscles that allow them to expand by themselves. Instead, the lungs respond passively to pressure changes within the thoracic cavity. Lungs are invested by 'pleura', which has two layers parietal and visceral. The former is attached to the inner side of the chest wall and the latter to the underlying lungs. In between the two layers is a 'pleural cavity' containing 'pleural fluid', which is adhesive in nature. As a result, the lungs expand with the expansion of the chest wall (Pearce, E., 2001).<sup>2</sup>

*Breathing Mechanism:* The breathing mechanism is categorized into two processes, i.e., inspiration and expiration. Usually, inspiration is rhythmically followed by expiration. The process of inspiration is an active process that requires energy. During inspiration, the thorax is enlarged by the outward and upward movement of the ribs due to the contraction of muscles between the ribs and the downward trend of the diaphragm. These forces separate the thorax from the abdomen. The chest expansion (increase in the thoracic cavity volume) is accompanied by a pressure fall within the lungs, causing atmospheric oxygen rich air to pass down into the lungs. With each quiet breath cycle, about 500 ml of air flows into and out of the lungs. This is known as 'Tidal Air'. Each 1.5 cm descent in the diaphragm brings back 200-300 ml of atmospheric air to enter the lungs. Thus, the diaphragm is responsible for 75% of the total inspiration. The process of expiration is a passive process that does not require energy. In quiet breathing, it is brought about by the relaxation of muscles that contract during inspiration. Therefore, ribs return to their original resting position, and the diaphragm ascends, causing thoracic cavity size to decrease, forcing the air out of the lungs back into atmosphere. However, during forced expiration, the muscles of expiration (abdominal muscles and intercostal muscles) also contract to bring more air out of the lungs. The Yoga technique of Kapalbhathi (active and rhythmic exhalation followed by passive inhalation) does the same which not only, if done regularly for a longer duration of two minutes and more. Patanjali (PYS: 1/34)<sup>3</sup> also recommends the similar fashioned breathing followed by holding of breath for attaining quietness of mind.

*The Rate of Respiration (R.R.):* Respiratory rate is slightly quicker in women than in men. In normal breathing, expiration succeeds inspiration and is followed by a slight pause. The normal respiration cycle is Inspiration expiration pause. This order

is sometimes reversed in sick babies, and the sequence becomes inspiration pause expiration. This is described as inverse breathing.

The average respiratory rate in the newly born is 40 per minute; 12 months, the infant is 30 per minute; between two to five years of age, it is 24 per minute; and adults, 12 to 22 per minute.

### *Signs & Symptoms*

*Symptoms:* Symptoms<sup>4</sup> refer to those characteristics of a disease that the patients tell the doctor. Symptoms of asthma include gasping for breath (increased trouble in exhaling than in inhaling because the air passages of the small bronchi become clogged and constricted with mucous), coughing, wheezing, itching of the chin, the back of the neck or chest, tightness in the chest, profuse sweating and vomiting, increased heart beat and respiratory rate, abdominal pains, stuffy nose, and mucous build up in the airways and sense of choking is felt. The attack is worse while lying down.

*Signs:* Signs<sup>4</sup> are those characteristics of diseases observed by the doctor. Signs of asthma include tachycardia, tachypnoea, and high temperature (101-103°F), laboured breathing, prominent neck veins, barrel shaped chest, wheezing, etc.

### *Causes*

*Causative Factors:* Intrinsic - Bronchial Asthma is observed more in males than females. Intrinsic asthma is caused by either pre-existing conditions of the respiratory system or the lungs, such as a history of tuberculosis, pneumonia, bronchitis, age related degenerative lung changes, etc. Mechanically, bronchial muscles are constricted to the extent of considerably lessening the inner diameter of the bronchi. The inner lining of the bronchi (mucous membrane) gets swollen, further narrowing the lumen of the bronchi. Secretions are poured out from the swollen mucous lining into the narrowed bronchi and bronchioles, resulting in a wheezing sound that is louder during exhalation because the bronchi get narrower. The lungs of the patients are over distended and less elastic than those of ordinary persons. The breathing capacity of the lungs is decreased, and the reserves are at their lowest. Naturopaths opines that loss of tone of the respiratory system as a result of (a) imperfect elimination, (b) improper feeding and eating habits, (c) suppression of acute diseases by drugs, (d) wrong posture while sitting, standing, and sleeping, and (e) destructive emotions.

Other concerning factors include deviated

nasal septum, nasal polyp, unsuitable food (curd, rice, banana, etc.), hyper sensitiveness (allergy) to foreign proteins, bacterial, vegetables, (pollen), animal emanations (feathers), diet proteins (eggs, prawn), ovarian disorders in female, anxiety neuroses. In addition, rainy weather, strong winds, and sudden changes in barometric pressure are known to precipitate asthma attacks.

### Diagnosis

Diagnosis<sup>4</sup> refers to the process of "identification of disease by noting down signs and symptoms," conducting physical examination through naked eye examination, percussion, palpation and auscultation (rhonchi and rales, sometimes rhonchial fremitus may be felt), reports of blood, stool, urine tests, x-rays, etc. In the case of asthma, hemogram (Hemoglobin, white blood cells, eosinophils), sugar pp and pf, Hb1ac, Chest X-ray P.A. view, etc., may be helpful in diagnosis.

*Complications:* Complications here means health problems caused by intrinsic bronchial asthma if not treated well. Such complications include flaring up of chronic bronchitis, broncho-pneumonia, bronchiectasis, pulmonary tuberculosis, emphysema, etc.

### Treatment Approach in Naturopathy and Yoga

Naturopathy is the scientific application of naturally available means (air, sun, water, mud, food, etc.) and other natural methods and modalities, viz., exercise, scientific massage, manipulation techniques, herbalism, etc.

In the case of bronchial asthma, the natural approach for prevention and management is aimed at normal functioning of shoulder and clavicle bones and muscles, ribs and muscles between, and the diaphragm so that throwing out of maximum toxin from lungs and ingestion of maximum oxygenated air could be ensured. For this purpose, more excellent blood circulation to the upper parts of the lungs is necessary. So, the method of breathing is to be corrected. The breathing technique of a newborn infant is encouraged to be adopted. In Yoga therapy, three step breathing techniques (chest, abdominal, and combined breathing as supported by Dr. Dean Ornish)<sup>5</sup> are beneficial for restoring standard breathing patterns and improving lung and bronchial functions.

1. *Hydrotherapy:* Hydrotherapy refers to the application of water at various temperatures to manage and prevent diseases. *Vapor inhalation*, taken for five to ten minutes, loosens up phlegm and reduces lung and

chest congestion. A few drops of eucalyptus, peppermint, or clove oil added to the water for vapor inhalation alleviates the symptoms effectively. *Acharya Lakshmana Sarma*<sup>6</sup> suggests use of *hot chest* and *shoulder packs* and *hot foot baths* in hydrotherapeutic treatment. *Hot chest and shoulder packs* give the quickest and most satisfactory relief. These packs may be given continuously for half an hour or more, two to three times a day. In case of an acute *attack*, *alternative hot and cold fermentation* for the *upper part of the back* and a *hot foot bath* and a *wet cloth over the head* simultaneously are helpful. During an attack, sipping *hot water* also helps. In chronic asthma, *Cabinet steams bath* once or twice a week allows the skin to breathe and throw toxins out (skin is considered the third lung), *cold friction* to tone up the body, non-violent enema and spinal bath, along with other natural methods, tone up the nervous system and thus help restore health quickly.

2. *Colour Therapy:* Color therapy uses physical natural color goods, sun rays comprising seven colours, ultra violet rays and infrared - rays for the management and prevention of diseases. Asthma patients should avoid wearing blue or black clothes. They should mostly wear pink, yellow, and red - coloured garments and occasionally wear green - coloured garments. Their rooms should neither be painted blue nor black - colour. Enema with green *sun - charged water* may be used for about two weeks in the mornings. Green sun - charged water is a good eliminator of mucous from the body. Take half a cup of such water early in the morning and about 15 minutes before each main meal. Similarly, take half a cup of *orange sun - charged water* about 15 minutes after each main meal. Italicized - charged air may be inhaled twice a day after it has cooled down. In case of asthmatic attacks tying of a 4" 10 cm wide cotton scarlet *red colour* bandage on the left for earm at the wrist or upper forearm has shown spectacular results. Red sheets is also likely to help in such a situation. Try the above prescriptions for a few days and find which of these suits you the best. Then continue with those prescriptions for six to eight weeks to get good results.
3. Herbal<sup>6,7</sup> and Nutritional Therapy<sup>6</sup> for Bronchial Asthma:
  - 1) *Garlic:* Take raw and freshly crushed garlic

with one cup of normal or warm water. The garlic dissolves mucous in the sinuses, bronchial tubes, and lungs. An excellent hot dish of garlic soup taken before retiring to bed may also prove soothing.

2) *Turmeric*: Herbalists and Ayurvedic practitioners consider turmeric a wonder food for asthma. Half to one tea spoon of turmeric powder may be taken with an equal quantity of honey on an empty stomach. Half to one tea spoon of turmeric powder could be taken at night also with warm milk.

3) *Honey*: Honey immediately reduces inflammation and coughing spasms. Honey has a fatal effect on germs due to its moisture absorbing capacity. Honey mixed with thin slices of raw onions is very effective. It is said that if a jug of honey is held under the nose of an asthma patient and he inhales the air that comes into contact with, he starts breathing more accessible and more profound. The effect lasts for about an hour or so. This is because honey contains a mixture of 'higher' alcohols and ethereal oils, and the vapours given off by them are soothing and beneficial to the asthma patient. Honey thins out accumulated mucous and helps its elimination from the respiration passages.

4) *Grape juice* gives much energy, eliminates mucous and phlegm, and cleanses the blood of toxins.

5) *Raw banana*, either cooked as a vegetable or with honey and goat milk is beneficial. Ripe banana produces phlegm and should be avoided.

6) *Figs and raisins (munnska)* may be taken with honey. *Soya bean* milk is beneficial with honey.

7) *Pine apple* juice is good as it dissolves mucous.

8) *Herbal tea* is made from Amla leaves and methi seeds.

9) *Cranberries* contain natural citric and malic benzoic acid, which acts as intestinal antiseptics and facilitates digestion. These also have a bronchial antispasmodic effect which dilates bronchial tubes and opens them because of its antibiotic action on the substance blocking those tubes.

10) *Asparagus*: 3-4 table spoons taken twice daily have been known to produce good results. Asparagus could even be diluted with water to make a cold or a hot drink.

11) *Triphala* may be taken with a warm liquid.

12) *Peppermint* helps eliminate hardening mucous from the lungs.

4. *Exercise*: (I) *Diaphragmatic Breathing*: The primary cause of bronchial asthma is faulty

breathing. The correct way of breathing can be learned from an infant in a deep sleep. Its mode of breathing is natural since defects have not yet started creeping into its breathing system. Its breathing has a rhythm and a melody. With every inhale, the abdomen goes up, and on exhale, it goes down. This is called diaphragmatic breathing system, which the patients need to adopt. As one grows up, due to improper lifestyle, breathing methods change. While inhaling, some people start expanding their chests. This doesn't seem right. The pause between inhaling and exhaling should be no greater than the time taken by the winking of an eye. Breathing should be systematic and regular. There should be no jerks, arrests, or holding of breath. It should be noiseless. At every inhale under this system, there is an incredible feeling at the triangle of the nose, and at every exhale, there is a warm feeling. Thus, correct breathing improves the overall intake of life force. The above mentioned diaphragmatic breathing system should be practiced by every asthmatic regularly and daily.

(II) *Blowing*: Adopt any of the blowing up exercises and practice alternately:

(a) Blow up balloons two to three times daily.

(b) Blow out candles.

(c) Inhale and blow through a straw into the water. Again, inhale fresh air and repeat.

(d) Outdoors singing, where the pitch has to be raised, is an exercise. *Hunched rounded shoulders and a barrel chest are results of wrong breathing practices for a long time*. These exercises also help to throw residual air from the lungs and refresh them with fresh oxygenated air. In addition, these exercises improve lung capacity and restores normal breathing.

(III) *Swimming*: Swimming is one of the best sports for asthmatics. Swimming dramatically increases lung capacity, particularly in breast stroke. There is the slightest chance of asthma because of the pool's moisture and humidity.

(IV) *Massage*: Massage is significantly indicated for asthmatics. Deep muscle massage should be given between the ribs, the spine, and the diaphragm. Massage between the shoulder blades also helps immensely. *Cupping* and *kneading strokes* on the chest and the back are beneficial.<sup>7</sup>

5. Yoga therapy means scientific application



and practice of yoga methods for management and prevention of diseases. The Yoga methods include shatkarmas (internal cleansing techniques), sukshma Vyayamas (yoga exercises for the specific part of the body), asanas (postures), mudras (gestures), pranayamas (breathing techniques), meditation, mantras, etc. Among the shatkarmas, kunjla and jalneti are highly beneficial for throwing out phlegm from the upper and lower respiratory tract. In the sukshma vyayamas, exercises for the neck, shoulders and the chest are highly beneficial. Asanas<sup>8,9</sup> like Gomukhasana, Pawanmuktasana, Sarvangasana, Bhujangasana, Dhanurasana or naukasana, Ustrasana, Salabhasana, Janu Sirasana, Markatasana are highly beneficial in improving respiratory resistance and capacity. The asanas may also help correct postures (barrel chest, etc.). Pranayamas<sup>8,10</sup> such as Nadishodhana, Ujjayi, Bhastrika and Kapalabhati are beneficial for cleansing the respiratory tract and improving its strength. Meditation with chanting of 'Hrang' mantra along with visualization of yellow color on the entire chest is beneficial for management of asthma.<sup>7</sup>

6. *Contact your physician in the following conditions*<sup>11,12</sup>

1. You are experiencing an episode of asthma for the first time or asthma is a chronic condition; it can be quite serious if not treated properly.
2. Your cough is so persistent and severe that it interferes with sleep and daily activities; you could be damaging sensitive air sacs in your lungs.
3. You have a suffocating feeling, making it difficult to talk, nostrils flare, the skin between the ribs appears sucked in, and the lips or the skin under the nails looks grayish or bluish. These are all signs of extreme oxygen deprivation. Get immediate emergency treatment.
4. Your symptoms last more than a week, and your mucus becomes darker, thicker or increases in volume, most likely, you have an infection requiring antibiotics.
5. You display symptoms of acute bronchitis and have chronic lung or heart problems or infected with the virus that causes AIDS, respiratory infections can leave you vulnerable to more serious lung diseases, such as pneumonia.

6. You have great difficulty in breathing. This symptom, sometimes mistakenly associated with bronchitis, could signal asthma, emphysema, tuberculosis, heart disease, a serious allergic reaction or cancer.
7. The prescribed asthma medicine does not work in the time it is supposed that you need new prescription.

*Prevention*<sup>11,12</sup>

1. Medical experts observed two abnormal blood values in most asthma patients. The first is a higher amount of potassium, and the second is a lower amount of sugar in the blood. Hence the patients should refrain from taking potassium rich foods and maintain their blood sugar through a regular balanced diet with an intake of complex carbohydrates. Asthmatics typically have low blood sugar, and people with diabetes hardly ever have asthma.
2. Avoid foods and drinks that have high concentrations of sulfites, such as beer, wine, wine vinegar, instant tea, grape juice, lemon juice, grapes, fresh shrimp, pizza dough, dried fruits (such as apricots and apples), canned vegetables, instant potatoes, corn syrup, fruit topping, and molasses. Some nutritionists recommend that you also steer clear of foods that cause excess mucus production, found mainly in the dairy group (although goat's milk generally causes less mucus production than cow's milk), as well as in refined starches (white flour based products) and processed foods.
3. A daily dose of B-complex vitamins (50 to 100 mg) and magnesium (400 to 600 mg) taken as pulse therapy may help reduce the frequency and severity of asthma episodes.
4. Strengthen the immune system and protect against infection. Nutritionists often recommend vitamins A, B complex, C and E, along with the minerals selenium and zinc.
5. Monitor the shifts in your lung capacity at home using a peak flow meter, a device that your doctor can prescribe to you. Alert to reductions in your ability to exhale, you can take precautions and lessen the severity of an asthma episode.
6. Learn to identify your triggers. Keep a diary detailing all the environmental and emotional factors that affect you every day over the course of several months. When you have an asthma attack, go back to our

diary to see which factor, or combination of factors, might have contributed to it.

7. In case of acute and chronic bronchitis, stay at home and keep warm during the period of infection, one doesn't necessarily need to stay in bed, but don't over extend yourself. Consider using a vaporizer, or try inhaling steam over a sink full of hot water. Dress warmly in cold, dry weather. Avoid exposure to paint or exhaust fumes, dust, and people with colds.

*Avoid:* Avoid all starchy refined foods because they readily form heavy mucous. Intake of acidic foods must be drastically reduced. Fats, fried foods, and a rich protein diet must be avoided. Cow's and buffalo's milk must be cut out and substituted by soya milk or goat milk where necessary. Sugar, ice cream, cake, pastries, cola, soft beverages, and stimulant and irritant foods must be avoided.

## CONCLUSION

Mild to moderate degree of intrinsic bronchial asthma (not the extrinsic and cardiac asthma) can be managed and prevented to a great extent with the integrated use of therapeutic techniques of Yoga and Naturopathy. The patients should do take into account what to avoid, how to preventive and especially when to seek doctor's advised. Initially, the patients should perform the therapeutic techniques suggested in the article under guidance and supervision of a certified and experienced Naturopath and Yoga Therapists/Teacher.

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