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Review Article

Curing Asthma with Diet and Lifestyle Modification

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ABSTRACT

Asthma means chronic (long term) illness of the lungs causing cough, shortness of breath, chest tightness, wheezing and fast respirations, which is influenced by several genetic developments and environmental factors that affect over 300 million people around the world and 1 in 4 urban children. The occurrence of asthma increased in the world over the last 25 years. Environmental factors such as air pollution allergens, infection, smoking, hormones, and some specific medicine take part in this disorder. Currently there are different therapies to overcome this disease like Herbal, Unani, Ayurveda, Siddha, Homeopathy, Naturopathy, Allopathy, Biochemical and Chinese herbs. Allopathic treatment is also available for majority of the disorders but the problem is increasing price of medication now a days and allopathic medicines are related with a diversity of side effects. So tendency towards management of asthma with modern therapies like intake of nutritional diet and modification in our lifestyle including exercise, yoga are highly adopted these days.

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INTRODUCTION

The long term illness Asthma is defined as an allergic syndrome, starting mostly in childhood. It is characterized or described by reversible airflow obstruction with episodic course and sometime sympathetic prediction in general, because of upright reaction to anti-inflammatory cure. [1] This disease is known as persistent inflammatory syndrome of the lungs and airways. The persistent inflammation is related with airway hyper-responsiveness (response to triggers, such as exercise and allergens) that generate recurrent symptoms of asthma such as dyspnea, wheezing, coughing, chest tightness and shortness of breath. [2] Convulsive attacks of breathlessness, wheezing and chest tightness resulting from paroxysmal thinning of the bronchial airways is known as Bronchial Asthma. Asthma is one of the most continual disease, causing about 255,000 premature deaths yearly in the world and affecting over 300 million people around the globe. In every 250 deaths the patients with asthma account for almost 1. Observation and studies proclaim that in next 10 to 11 years the deaths with asthma would enhance by approximately 20% to 21% if vital and necessary act not taken against this

disease. This disorder is roughly all over the world in spite of level of high development, Studies proclaimed that over 80% of deaths with asthma happen in middle and low -income countries. [3]

A severe asthma attack is generated by inflammation of the airways and lungs that resulting from narrowing of the airways, obstructing airflow and cause breathing so difficult. While the chronic asthma is known as lung situation characterized mostly by recurrent attacks of asthma and require therapeutic treatment to minimize and overcome severe attacks. In fact asthma induced by exercise (EIA) is a kind of asthma in which exercise triggers wheezing, coughing or dyspnea. [4]

Etiology and Precipitating Factors

Contraction of bronchial airway is due to mucosal inflammation, muscle spasm and viscid bronchial secretions happening as a result of inflammatory reactions inside the bronchial walls. This happened generally due to following precipitating factors, Sudden changes in climate, cold air leading to flu, dust,

atmospheric pollution, tobacco smoke, respiratory viral infections leading to flu, emotional stress and certain drugs like aspirin, NSAIDS, beta blockers e.g. propranolol. [5]

Symptoms of Asthma

Dyspnea (Shortness of breath): Shortness of breath is a main cause of suffering in asthma patients, although severe dyspnea does not forever reflect a severe attack or reduced lung role.

Wheezing: The attack start with wheezing and fast inhalation, and as it becomes extra severe, the breathing muscles turn out to be obviously active.

Coughing: The initial indication of asthma is a nonproductive cough in a few people.

Sweating & fast heart rate: The ending of an attack is frequently noticeable by a cough that produces thick mucus. After the first severe attack, inflammation persists cough for days to weeks, often without symptoms.

Chest tightness (Pain): Preliminary chest tightness devoid of any other symptoms may be an early sign of a severe attack. The muscles of neck may constrict, and there is difficulty in talking or even not possible to talk. Pain in chest occurs in about ¾ of patients. It can be extremely harsh, even though its strength is not essentially connected to the severity of the asthma attack itself. [6] [23]

Global Prevalence

The World Health Organization (WHO) conduct the World Health Survey (WHS) in 2002 to 2003. This Survey shows that individuals with aged 18 to 45 years from 70 countries are a total of 178,216 answered to questions associated with asthma and related symptoms to the asthma. In this survey by WHO the incidence of asthma patients was founded on responses of some questions included such as self-reported Physician clinical/treated asthma, wheezing in the last 12 months and diagnosed asthma. [7]

The worldwide occurrence rate of clinical/treated asthma, wheezing in adults and physician diagnosed asthma were 4.5%, 8.7%, and 4.3% respectively and occurring varied by as much as 21-fold in the 70 countries of the world. In these 70 countries of the world Australia is the country that reported the maximum rate of, wheezing (breathless) 27.4%, doctor diagnosed asthma 21% clinical/treated asthma, 21.6%. Nearly 24% were present smokers partially reported wheezing and those have never been treated for asthma are 20%. This study from the world health survey provides a worldwide approximation of the load of asthma in adults, and also alarmed to the health practitioners that asthma remain to be a major public health problem and health related challenge worldwide. The main barrier in the global load of the asthma is the high occurrence of smoking. While in the resource-rich countries the occurrence rates were observed at peak. Resource-poor

countries and nations were also affected posing a barrier to growth as it gives additional requirements of non-communicable disorders. [8] In Pakistan the prevalence of this syndrome is increasing speedily with an annually boost of 4% to 5% of which 20% to 30% are youngster aged children aged 13 and 15 years mostly. Almost 20 million peoples including 12% to 13% of the adult population are already affected by this diseases in Pakistan. In Pakistan, almost 20 million people including 12% of adult population are already affected by this disease. [9]

Treatment Strategies

Diet

Figs (Ficus carica): Dry figs (Anjeer) assist in clearance of apparent clear mucus from bronchial tubes. Fresh figs are therefore an obliging food tonic for asthma. Phlegmatic cases of cough can be treated. Draining off the phlegm can be done by the figs and gives relieve to the patients.

Apples: Apples contain flavonoids that are effective in the treatment of asthma.

Indian Gooseberry: This Fruit has been proved helpful to the asthma cure.

Cantaloupe: Vitamin C is found in cantaloupe and it is very potent antioxidant that may ward off lung damage by fighting free radicals. A survey conducted on preschool children in Japan shows that those with the maximum intake of vitamin C were less likely to undergo asthma than those with less eating. [10]

Carrots: Fresh carrots are rich in beta-carotene, and these beta-carotenes are important antioxidant. Preface observation & studies show that beta-carotene, altered to vitamin A in the body, and in this way may lessen the prevalence of EIA (exercise-induced asthma).

Garlic (Allium cepa): Garlic is an effective home remedy mostly used for the treatment of asthma. In home remedy 7 to 8 cloves of fresh garlic should be boiled in 25-30 ml of milk. This treatment is generally used in the early stages of asthma.

Turmeric (Haldi): Turmeric is also used with milk for asthma. [11]

Linseed (Alsi): Normally decoction prepared from linseed (Alsi) is considered valuable in preventing the reoccurrence of attacks and congestion.

Coffee & Tea: Caffeinated coffee may moderately recover and improve airway functions for up to 4 hours after it is consumed. [12]

Water: Increased intakes of water prevent asthma.

Honey (Shahad): Among the best home remedies for asthma honey is the most valuable and effective treatment for asthma. If a jug of honey is held under the nose of the patient with asthma and when he inhales the air that comes in contact with honey, he starts to inhale deeply and easily. The effect remains for about an hour or so. Honey normally brings relief, when air flowing over the honey and air inhaled by the patients. Honey is also effective when it is eaten or taken by patient either in

fresh water or milk. It thins out accumulated mucus and facilitates its exclusion from the respiratory route. [13]

Amino acids: Amino acids such as methionine, cysteine, glycine & glutamic acid have valuable effect on asthma. [14]

Flavones & Flavonoids: Compounds like flavones & flavonoids are also found to be very effective for the treatment & management of asthma. [15]

Fatty acids: In the treatment of asthma, Omega-3 fatty acids in fish oil, flax seed and canola oil have been flaunted as an anti-inflammatory dietary supplement. These fatty acids bound to leukotriene formation by obstructing metabolism of arachidonic acid. Intake of fresh oily fish (cod, orange roughly, mullet, salmon, tuna, mackerel and rainbow trout) is linked with appreciably reduced risk of asthma and in children & adults developed pulmonary function in outsized epidemiologic studies. [16]

Vitamins & Minerals: Foods containing vitamins C vitamins E vitamin A and beta carotenes are used for asthma cure. Some minerals like sodium and magnesium in low concentration in diet also effective for asthma. Selenium found from fish, red meat, grains, egg, chicken and liver is helpful for asthma. The key role of selenium is to act as a cofactor for the antioxidant enzyme like glutathione peroxidase, which is proposed to oppose oxidation and to lesser the formation and liberation of leukotriene beta inflammatory mediator. [17]

Nutraceutical Therapy:

The use of Nutraceuticals are increasing these days and becoming important basic dietary need of the peoples. With the competitive modernized and ever increasing stressful conditions, all diseases are modifying and having a field day. Nutraceuticals are effective & valuable source for both modern and traditional medications treatments. The term Nutraceuticals is derived from the word nutrition' and 'pharmaceutical' so the nutraceutical is a food or a part of diet which have obstructive & remedial effects on so many diseases. Nutraceutical offer a diversity of health benefits. These include a variety of nutritional supplements and dietary nutrients particularly designed herbal products or sometime diet. Nutraceuticals have more opportunities for the treatment of asthma. Nutraceuticals is of both plants and animals origin and have extensive range of therapeutic effects for the asthmatic patients. Nutrients e.g. antioxidant, amino acids, minerals, vitamins omega 3 fatty acids, probiotics and polysaccharide are found to be effective for the treatment of asthmatic patient. [4]

Lifestyle Modification Therapies:

Lifestyle modification therapies like swimming, exercise, and yoga have important and powerful role in the treatment of asthma. Unfortunately, there is very less use of these therapies such as (Exercise, Yoga, Swimming,

and Stress Avoidance) as compared to taking drugs for the treatment of the asthma. It usually involves three areas: exercise, yoga and mind-body therapies. Yoga has effective and valuable role in adolescents and adults in controlling asthma symptoms and improving pulmonary functions. Swimming improves general conditions in asthmatic patient. [18]

Swimming: Swimming have valuable effects for the asthmatic patients. Practice of swimming regularly improves general condition in the asthmatic patients.

Exercise and Yoga: Exercise and yoga have effective role in the prevention and management of the asthma in adults. Exercise & yoga on daily basis control asthma symptoms and improve pulmonary functions very speedily.

Stress Avoidance & other Mind Body Therapies: In some cases the stress avoidance may also help out in the treatment of asthma. Mind body therapies also have vital act in relieving attacks of the asthma in some aspects.

Inhalational Therapy:

Anti-inflammatory medicines, specially inhaled steroids, are the most significant treatment for the majority of the patients with asthma. Drugs in inhalational dosage form are lifesaving drugs work by minimizing swelling prevents asthma attacks and reducing mucus production in the airways and lungs in this way lungs an airways are less receptive and less likely to react to triggers asthma and cause asthma symptoms.

Inhalation of Penicillin Aerosol: Penicillin is also available in aerosol form. Patients of Bronchial asthma used penicillin aerosol. Inhalational therapies such as penicillin aerosol in this way found to be very effective in the treatment of diseases like asthma. [19]

Inhalational Corticosteroid Therapy: Corticosteroids are anti-inflammatory medications. These are effective in this way that these drugs decrease inflammation in lungs and airways and prevent leaking of blood vessels fluid into the lungs tissues. Inhaled corticosteroid are available in aerosol dosage form and prevent the attacks of the asthma by delivering direct medication to lungs & airways. Long term use of the inhaled corticosteroids like budesonide, flunisolide and fluticasone may have some adverse effects such as bruising & skin thinning. [20]

Inhaled β 2-Agonist (Long-acting): β 2-agonists like Salmeterol and Formoterol are selective drugs with bronchodilating effect. After a single deep inhalation of these two selective β 2-agonists effects remains for at least 2 hours. The structure of these long-acting inhaled β 2-agonists (LABA) is, however, different. Formoterol, a formamylid substituted phenoethanolamine, was serendipitously found to be long-acting when given by inhalation. [21]

Inhaled Glucocorticoids Therapy: Glucocorticoids are also used for the management and treatment of bronchial asthma. Inhalational glucocorticoids are recommended mostly in the early stages of the asthma by physician. Glucocorticoids may be used or administered either orally or, to a great extent more securely by inhalation. [22]

CONCLUSION:

The role of nutritional diet and our lifestyle in cure, treatment and management of asthma is not beyond doubt. Our Daily diet, nutrition and lifestyle are may be modifiable and adjustable risk factors for the development, advancement and controlling of obstructive lung & airways diseases such as asthma. Asthma has no permanent treatment and cure. Alternatives therapies other than drugs have no side effects like medicine and these therapies improve physical condition and symptoms of the asthma. These therapies are long term while the emergency treatment required allopathic medications.

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