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REVIEW ARTICLE

NUTRITION AND BRONCHIAL ASTHMA

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ABSTRACT

Asthma continues to be a major public health problem and dietary factors play a significant role in triggering as well as in preventing bronchial asthma. Therefore, the purpose of this article is to highlight the nutritional aspect of asthma.

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INTRODUCTION

Asthma is a chronic condition involving inflammation and narrowing of the airways. Although the disease is incurable, certain set of factors can influence asthma. Recent years have witnessed nutrition as a significant contributing factor for chronic pulmonary diseases, including asthma. Different dietary components are known to either prevent or trigger the diseased condition, due to their possible role in regulation of immunity. The purpose of this article is to highlight the importance of nutritional constituents in relation to asthmatic condition; the knowledge of which holds significance in prevention of aggravation of the disease. The dietary triggers of asthma include food allergens, viz., milk, eggs, fish, peanuts, soy, yeast, cheese, wheat, rice and chocolates (Onorato *et al*., 1986; Yuginger, 1992; Sampson *et al*., 1992), antioxidative components, cations, like sodium & potassium, omega-6 fatty acids. The other asthma triggering agents include sulfites and sulfating agents, either occurring naturally or used in food processing. Asthma in children under 6 years of age is provoked by dried fruits and vegetables, potatoes, wine, beer, bottled lemon or lime juice, and pickled foods (Langeland and Aas, 1987). Certain preservaties, like sulfur dioxide and sodium benzoate, natural or synthetic colorants for e.g. tartrazine, and flavor enhancers, such as, monosodium glutamate also trigger the development of asthma. Inclusion of antioxidants, such as, vitamin-A/βcarotene, vitamin-C, vitamin-E and selenium, in the diet may help in reduction of allergen-induced inflammation. Also, a diet lacking appropriate quantities of vitamins C, vitamins E and omega-3 fatty acids affects efficient functioning of lungs (Gaur *et al*., 2013). As per some research groups breast-feeding may be beneficial in prevention of development of asthma in later years of life. A recent analysis on teenage individuals linked poor nutrition with a relatively high risk of incidence of asthma. Multivitamin supplements in diet may help decrease the symptoms of asthma, as the patients are generally deficient in vitamins B_6 and B_{12} and folic acid. However, daily intake of fresh fruits and vegetables is more beneficial than the pills (Rowe *et al*., 2004). It has also been reported that consumption of fruits than the vegetables is more advantageous for efficient lung functioning, because fruits contain high levels of vitamin C (Baker *et al*., 1999; Burney *et al*., 1986). Minerals, such as, selenium, magnesium, copper, zinc and manganese, and omega-3 fatty acids have proven beneficial for asthamatics. Asthma is an incurable condition, wherein the patient possesses the disease even when there seems to be no active attack of it. The best preventive strategy remains avoidance of the asthma attack triggering agents and a healthy individualistic diet. Reportedly, allergen avoidance leads to reduction in clinical reactivity in about one-third of the patients, both children and adults (Baba, 1992). Thus, inclusion and exclusion of appropriate dietary constituents depending upon awareness and personal experience seems to be an ideal approach towards prevention of the disease development/ its aggravation.

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