

VITAMIN D AND ASTHMA - AN OVERVIEW

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Beyond its effect on bone metabolism pleiotropic effects of vitamin D, e. g. regulation of immune response and inflammation were reported. Low vitamin D concentrations are a risk factor, e. g. for acute respiratory infection, bronchial asthma and chronic obstructive pulmonary disease (COPD). Study aim was a literature review on the role of vitamin D in asthma. A PUBMED search was made for publications regarding vitamin D deficiency in asthma and the effect of vitamin D supplementation. Vitamin D affects lung growth and maturation before birth and early childhood, plays a role in the development of the immune system affecting both, cells and regulatory cytokines, influences airway remodelling, reduces the risk of respiratory tract infections and acts in synergy with steroids. Vitamin D deficiency correlates with an increased risk for asthma and asthma exacerbation mainly in children and there is some evidence for a protective effect of vitamin D supplementation mainly in children. Numerous epidemiological and clinical studies as well as meta-analyses demonstrated vitamin D deficiency to be a risk factor for asthma and a possible protective role of vitamin D supplementation (mainly in children). However, further studies should be performed to confirm the evidence in different patient subgroups.