



TOPIC: ASTHMA AND CLIMATE CHANGE

(TEMPORARY) SHORTNESS OF BREATH



Asthma is a chronic inflammatory lung disease. The lung is simultaneously sensitive to various environmental stimuli. The respiratory tract is chronically sore.



ordinary bronchiole



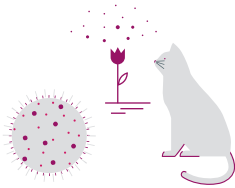
asthmatic bronchiole



asthmatic bronchiole during an attack

TYPES OF ASTHMA

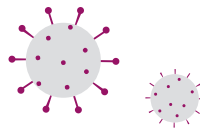
ALLERGIC ASTHMA



triggered by allergen carriers, e.g. by plant pollen (seasonal), animal hair or mould spores

occurs very often in families / starts in childhood and adolescence

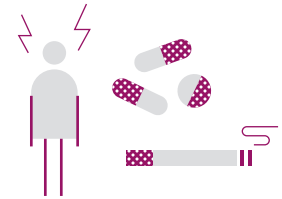
NONALLERGIC ASTHMA



occurs frequently after virus infections

(only) in adulthood and severe progression

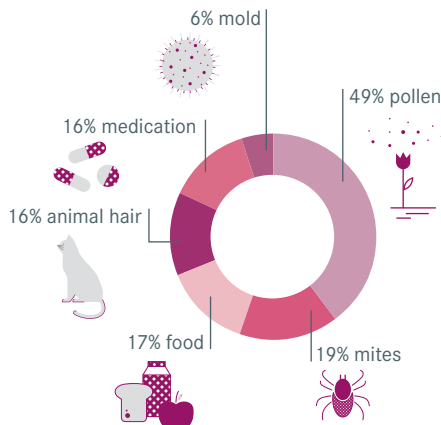
MIXED FORM



triggered by allergens as well as non-specific stimuli (e.g. infections, cigarette smoke, medication, physical and emotional stress)

most common form in adulthood

RANKING ALLERGENS



DEGREES OF ASTHMA CONTROL

DETERMINING CRITERIA:

frequency of symptoms

nightly awakening through asthma

taking medication on demand

activity restrictions due to illness

CONTROLLABILITY

(MEASURED OVER A PERIOD OF 4 WEEKS)

no criterion is met

1-2 criteria are met

3 - 4 criteria are met

CONTROLLED ASTHMA

PARTLY CONTROLLED ASTHMA

UNCONTROLLED ASTHMA

The degrees of asthma control are a step-by-step scheme in the treatment of asthma and serve the doctor as well as the patients as a guide. They are therefore to be understood as treatment guides. In principle, a patient does not remain at one stage of the disease for the rest of his life, but often moves on to a higher or lower level. The level depends on the disease activity, that is the strength and frequency of the symptoms.



SPREAD OF ASTHMA

The number varies heavily worldwide. The frequency of asthma in the population ranges from 2% in Vietnam and 33% in Australia.

Exact figures are difficult to obtain because, firstly, there are different definitions of asthma worldwide and, secondly, different criteria are used. There is no universal standard. In addition, many different collection criteria are used (questionnaire, diagnosis made by the doctor, occurrence of certain symptoms, lung function test.....).



In the Global Asthma Report 2018 experts estimate the global population at around

339 MILLION

people. The WHO estimates at 235 million people (Global Asthma Report) (Global Asthma Report)



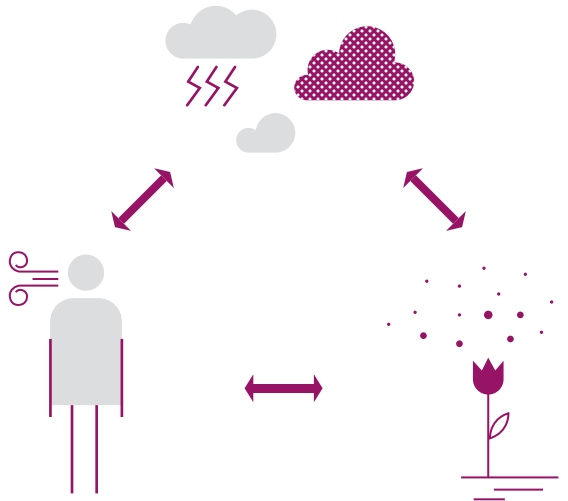
In Germany,

6 TO 8 MILLION

people suffer from asthma, which is 15% of all adults and 10-15% of all children and young people. Between 4800 and 6000 adults die every year.

HELMHOLTZ' RESEARCH: THUNDERSTORM-ASTHMA-PHENOMENON

Climate change has an influence on asthma diseases. They occur more frequently in industrialized countries. In the winter, people suffering from asthma have to deal with viruses – then with pollen or house dust.



A special phenomenon is thunderstorm-asthma. Here, various factors come together: for example, a high pollen concentration, an increased fine dust pollution and strong winds. During this interaction, the growth rate for asthma attacks increases visibly. As climate change advances, such weather situations could occur more frequent in the future.

INFO

At the Institute for Environmental Medicine, University professor Claudia Traidl-Hoffmann MD and Dipl.Geogr. Daniela Bayr of the Helmholtz Zentrum München (HMGU) research this particular phenomenon and adaptation possibilities. They evaluate pollen flight data, weather data (thunderstorm), and the number of emergency calls. Their objective is to develop an early warning system as people, who do not show allergic reactions to pollen, are also affected by this phenomenon, and could experience issues under certain conditions.

Would you like to know more on the subject?

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