

The impact of environmental factors on asthma control and prevention

Paulina Gaitan*

DESCRIPTION

A high-pitched whistling sound produced during breathing, particularly during exhalation, is one of the hallmark symptoms of asthma. Difficulty breathing or feeling out of breath, especially during physical activity or at night, is a common symptom of asthma. Many individuals with asthma experience a sensation of tightness or pressure in the chest, which can be uncomfortable and distressing. Persistent coughing, particularly at night or early in the morning, is another common symptom. The cough is often dry but may produce mucus. Chronic asthma can lead to fatigue and reduced exercise tolerance due to the effort required to breathe. Diagnosing asthma involves a combination of medical history, physical examination, and diagnostic tests. The goal is to confirm the presence of asthma, assess its severity, and rule out other potential causes of respiratory symptoms. A detailed medical history is crucial in diagnosing asthma. The healthcare provider will ask about the frequency and severity of symptoms, potential triggers, family history of asthma or allergies, and any previous respiratory conditions. During a physical exam, the healthcare provider will listen to the lungs for wheezing or other abnormal sounds. They may also check for signs of allergic conditions, such as eczema or nasal polyps. Spirometry is a common pulmonary function test used to assess lung function. It measures the amount of air a person can exhale forcefully after taking a deep breath and the speed of the exhalation. Reduced airflow on spirometry can indicate airway obstruction, supporting an asthma diagnosis. A peak flow meter is a portable device that measures the maximum speed of exhalation. Regular monitoring of peak flow can help track asthma control and detect early signs of an exacerbation. This test involves administering a bronchodilator (a medication that opens the airways) during spirometry. If lung function improves significantly after using the bronchodilator, it suggests

reversible airway obstruction characteristic of asthma. If the diagnosis is unclear, a meth choline challenge test may be performed. Meth choline is a substance that causes airway constriction in sensitive individuals. A positive response (significant decrease in lung function) indicates airway hyper responsiveness, supporting an asthma diagnosis. Skin prick tests or blood tests can identify specific allergens that may trigger asthma symptoms. Identifying these triggers can help in managing asthma more effectively. The treatment of asthma involves a combination of medication, lifestyle modifications, and trigger avoidance. The goal is to control symptoms, prevent exacerbations, and improve the overall quality of life. Asthma medications are broadly classified into 2 categories: Long-term control medications and quick-relief (rescue) medications. These medications are taken daily to maintain control over chronic symptoms and prevent exacerbations. The most effective long-term control medication, inhaled corticosteroids reduce airway inflammation and prevent symptoms. These bronchodilators are used in combination with inhaled corticosteroids to relax the airway muscles and improve airflow. These oral medications reduce inflammation and prevent airway constriction by blocking the action of leukotrienes, substances involved in the inflammatory process. A less commonly used oral medication that helps relax the airway muscles and improve breathing. Injectable medications that target specific components of the immune system, such as immunoglobulin E (IgE) or interleukins, to reduce inflammation in severe asthma cases.

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CONFLICT OF INTEREST

The author's declared that they have no conflict of interest.

Department of Respiratory Medicine, Queen Mary University of London, United Kingdom

Corresponding author: Paulina Gaitan

e-mail: paulina_gaitan@gmail.com

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