

Factsheet 20

Updated on 30 October 2020

Key facts about asthma

This factsheet has been designed for use by healthcare professionals only.

Introduction

Asthma is a common condition which affects 5.4 million in the UK.¹ It is therefore imperative that we have the appropriate clinical knowledge around this condition. The following factsheet provides key facts around asthma and how we as healthcare professionals can support people with asthma live a more positive quality of life.

The BTS/SIGN (2019) definition of asthma

Taken from BTS/SIGN 2019:²

Central to all definitions is the presence of symptoms (more than one of wheeze, breathlessness, chest tightness, cough) and of variable airflow obstruction.

More recent descriptions of asthma, in both children and adults, have included airway hyper-responsiveness and airway inflammation as components of the disease reflecting a developing understanding of the diverse subtypes (phenotypes and endotypes) of asthma and their underpinning mechanism.

The main symptoms of asthma include:

- Cough
- Wheeze
- Chest tightness
- Difficulty in breathing

Treatment of Asthma

The aim of treatment is to achieve control of asthma. Complete control of asthma is defined as no daytime symptoms, no night-time awakening due to asthma, no asthma attacks, no need for rescue medication, no limitations on activity including exercise, normal lung function and minimal side-effects from treatment.³

BTS/SIGN (2019)² and NICE (2020)⁴ produce a stepwise approach which aim to stop symptoms quickly and to improve peak flow. Treatment should be started at the level most appropriate to initial severity of asthma. The aim is to achieve early control and to maintain it by stepping up treatment as necessary and decreasing treatment when control is good.³

Remember during a pandemic it is important for a patient's asthma to remain as stable as possible. Therefore, extra care must be taken when stepping down treatment during this time.⁵

A self-management programme comprising of a written personalised action plan and education should be offered to all patients with asthma (and/or their family or carers) and should be supported with regular reviews by a healthcare professional.³

The role of inhaled corticosteroids

ICS is the cornerstone of asthma treatment throughout the ages.

- The anti-inflammatory activity of ICS is linked to their ability to target cells implicated in asthmatic inflammation (Matera et al, 2019).⁶ The role of ICS is to modify pro-inflammatory proteins, control or reverse asthma induced structural changes in the airways such as basement membrane thickening and vascularity of the bronchial wall and thereby reduce hyperresponsiveness. At a cellular level the presence of ICS also reduces the number of inflammatory cells in the airways (Hossny et al, 2016).⁷
- A clinical management plan for a person that experiences infrequent or intermittent asthma symptoms and does not include ICS should not be accepted practice. The process of symptom assessment, risk assessment and consequential decision making must be clearly entered on the clinical records. Refusal for ICS therapy by a patient or their carer may be attributed to poor education or understanding of asthma as a long-term inflammatory condition and a failure to explore health beliefs or other factors including socio-economic.

In the UK, asthma attacks hospitalise someone every 8 minutes with 185 people being admitted to hospital because of asthma attacks every day. One child is admitted to hospital every 20 minutes as the result of an asthma attack.¹ So, what can we do?

National Review Asthma Deaths (NRAD)

The National Review of Asthma deaths led by the Royal College of Physicians (RCP), reviewed the circumstances surrounding deaths from asthma from 1 February 2012 to 30 January 2013.⁸

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Data was available for analysis on 195 people who were thought to have died from asthma during the review period and the key findings below relate to this group.⁸

What were some of the key findings?⁸

- There was no evidence of an asthma review having taking place in general practice in the last year before death for 43% of the 195 people who died.
- Personal asthma action plans (PAAPs), acknowledged to improve asthma care, were known to be provided to only 44 (23%) of the 195 people who died from asthma of cases that were reviewed.
- There was evidence of under-prescribing of preventer medication. To comply with recommendations, most patients would usually need at least 12 preventer prescriptions per year. Among 168 patients on preventer inhalers at the time of death, either as stand-alone or in combination, the number of prescriptions was known for 128, and 49 of these (38%) were known to have been issued with fewer than four and 103 (80%) issued with fewer than 12 preventer inhalers in the previous year.
- From a patient perspective the expert panel identified factors relating to the patient, their family and the environment that could have avoided death in 65% of the cases. These included current tobacco smoking in 19% of cases, exposure to secondhand smoke in the home, non-adherence to medical advice and non-attendance at review appointments.

Further details can be found on: <https://www.rcplondon.ac.uk/projects/national-review-asthma-deaths>

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It is therefore vital that as clinicians we ensure we take the recommended steps as outlined in the review to reduce the number of hospital admissions and the number of deaths associated with asthma.

References:

- ¹ Asthma UK 2017 Available at: <https://www.asthma.org.uk/about/media/facts-and-statistics/>
- ² Scottish Intercollegiate Guidelines Network British Thoracic Society [SIGN/BTS] (2019) British guideline on the management of asthma. A national clinical guideline. Available from <https://www.brit-thoracic.org.uk/quality-improvement/guidelines/asthma/>
- ³ British National Formulary (BNF) (2019) Available at: <https://bnf.nice.org.uk/treatment-summary/asthma-chronic.html>
- ⁴ National Institute for Health and Care Guideline [NICE] (2020) Asthma: diagnosis, monitoring and chronic asthma management. Available at: <https://www.nice.org.uk/guidance/ng80>
- ⁵ Diagnosing and managing asthma attacks and people with COPD presenting in crisis during the UK Covid 19 epidemic" www.pcrs-uk.org/sites/pcrs-uk.org/files/resources/COVID19/PCRS-Covid-19-Pragmatic-Guidance-v2-02-April-2020.pdf
- ⁶ Matera M, Rinaldi B, Calzetta L, Rogliani P, Cazzo M (2019) Pharmacokinetics and pharmacodynamics of inhaled corticosteroids for asthma treatment. *Pulmonary Pharmacology & Therapeutics*; 58 Available from <https://www.sciencedirect.com/journal/pulmonary-pharmacology-and-therapeutics/vol/58/suppl/C6>.
- ⁷ Hossny, E., Rosario, N., Lee, B.W. et al. The use of inhaled corticosteroids in pediatric asthma: update. *World Allergy Organ J* 9, 26 (2016). <https://doi.org/10.1186/s40413-016-0117-0> Available from <https://waojournal.biomedcentral.com/articles/10.1186/s40413-016-0117-0>
- ⁸ Why Asthma Still Kills (2014). Royal College of Physicians Available at <https://www.rcplondon.ac.uk/projects/outputs/why-asthma-still-kills>