education for health | SUPPORTING RESPIRATORY IMPROVEMENT

Factsheet 40

Updated on 16 April 2021

Inhalers – The Greener Choice: Part 2

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

Introduction

The Green choice lies in the whole process; identifying and discussing health beliefs, risk, benefit of treatment, expectation of treatment to device assessment to prescribing and to disposal. What is the impact of over-use of Short Acting Beta2 Agonists (SABA), poor symptom or disease control? What is the impact of unused medicines being thrown in the bin?

In February 2021, data demonstrated that respiratory inhaler medicine use in the UK shows that 83% of all SABA relievers for asthma are prescribed to patients who are potentially overusing their reliever medication. The overuse of SABA relievers is responsible for 250,000 tonnes of CO_2 equivalent annually.

These findings were presented at the British Thoracic Society Winter Meeting and are based on SABA prescription and use data extracted from the UK study in the SABA Use IN Asthma (SABINA) global programme of harmonised, large-scale observational studies collected between 2007-2017.

So, what can we do to help?

The Greenest Inhaler is the device the person **CAN USE, DOES USE** and **WILL USE** (Macdonald G, 2020) and this is further supported by opinion that environmental impact is considered secondary to making sure that patients are able to use their inhalers correctly (Usmani, Capstick, Saleem et al, 2020) and understand why they are taking it.

The Primary Care Respiratory Society (PCRS) *Greener Healthcare Initiative and White Paper (Greener Respiratory Healthcare That is Kinder to the Environment 2020)* sets out to promote the practical action that can help to reduce the environmental impact of respiratory healthcare. The paper sets out some key focuses around inhaler use and recycling, stating:

Education for Health
1 Lowes Lane Business Park, Lowes Lane,
Wellesbourne, Warwickshire CV35 9RB

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- *"In the same way that a clinician may consider the cheaper product if efficacy and safety are equivalent, so clinicians should only take environmental impact into account in selecting an inhaler device with the patient, if all other factors are the same."*
- *"Where clinically appropriate a change from pMDI to non-propellant inhaler may be considered if a suitable alternative is available and the patient is willing and able to change to the alternative inhaler."*
- *"Patients should receive regular review of their inhaler technique as part of their routine care.".*
- *"When patients have deteriorating control of their respiratory condition, they may lack the inspiratory effort required to deliver sufficient quantities of the medicine for adequate drug deposition via DPIs."*
- *"It is very important that the role of pMDIs in respiratory emergencies is recognised and protected. Patients should be informed of whether safe disposal or recycling schemes are available for their inhaler, the difference between them and how to access them."*

It is important to recognise that not all pMDI's are equal in their carbon impact and there is little published evidence on the impact of plastic from DPI's including fossil fuel depletion, human and animal toxicity in DPI's. The focus of the published evidence is on hydrofluorocarbons (HFCs) which are powerful greenhouse gas emitters with Global Warming Potential (GWP). They are not ozone depleters. In terms of carbon footprint HFA227 (Symbicort, Flutiform and Ventolin) containing pMDI's have approximately double the GWP to HFA134 containing inhalers (Salamol, Fostair, Clenil, Trimbow) (Janson, 2020) (Wilkinson, 2020). The soft mist device such as Respimat does not contain a propellant as the mist is generated by kinetic/mechanical energy.

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A green approach should always include:

- Discussing and promoting the return of inhalers to the pharmacy for recycling or disposal (by incineration).
- Prescribing the appropriate numbers of inhalers, aiming for optimal symptom control in order to reduce requests for short acting bronchodilators.

Summary

The Right Device for the Right person (with the lowest carbon footprint where possible that is prescribed appropriately and disposed of by return to the pharmacy).

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