BREATH-TAKING INSIGHTS: Evaluating inhaler technique of hospital inpatients with Chronic Obstructive Pulmonary Disease

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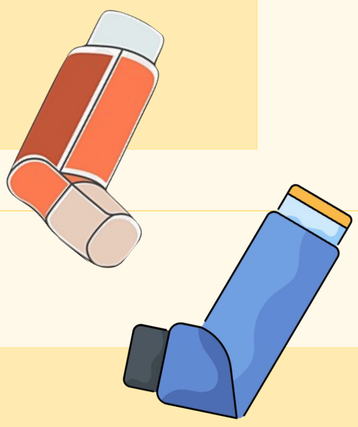
BACKGROUND

Inhalers are a critical component of chronic obstructive pulmonary disease (COPD) management; however, literature highlights poor rates of proper inhaler technique. Although community pharmacy initiatives aimed at assessing and improving inhaler technique have been researched extensively, Australian investigations in the hospital setting are lacking.

AIM

To determine the proportion of hospital inpatients with COPD who administer their inhalers correctly.



METHODS

A prospective study was undertaken at a metropolitan hospital, where surgical and medical inpatients with a prior COPD diagnosis were approached to undertake a brief survey and have their inhaler technique assessed against the National Prescribing Service device-specific checklists. Deviations from these checklists were classified as minor errors (when a step was missed/altered but an appropriate medication dose was still inhaled) or critical errors (those which impeded dose delivery).

RESULTS

Thirty-four inhalers and eight different device types were assessed across 22 participants. Three participants declined the technique assessment, two for which the incorrect device had been supplied. The most common major errors included inappropriate breath type, not holding breath after dose and forming a poor seal. Failure to breathe away from the device was the most common minor error. Anecdotally, several participants were identified as being better suited to an alternative device.

>10% (2/22) of participants had their inhaler technique assessed in the previous 12 months

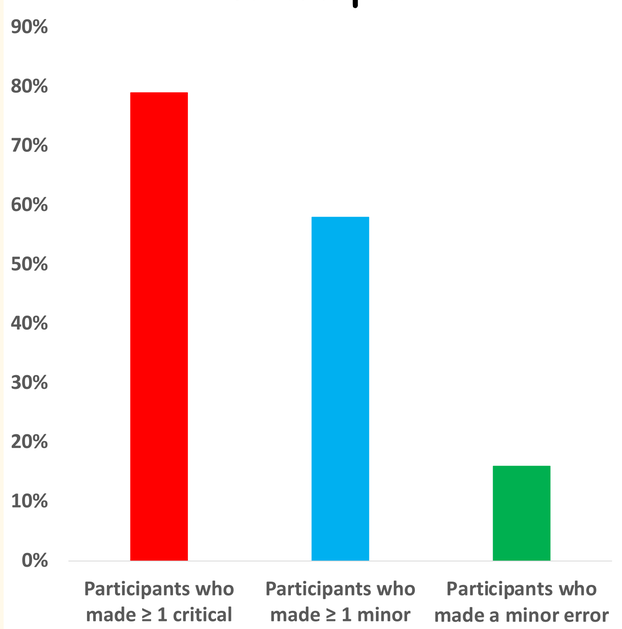
36% (8/22) reported never being counselled on how to use their inhaler

79% (15/19) of participants made at least one critical error

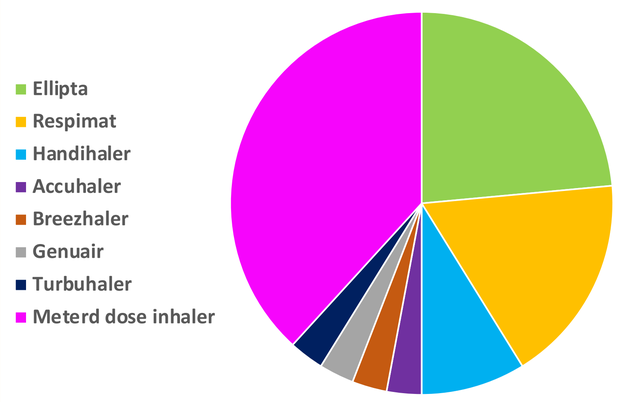
58% (11/19) of participants made minor errors

16% (3/19) of participants demonstrated correct technique

Participant Inhaler Technique



Inhaler Device Types Assessed



Reason for critical error	No. of critical errors (%)
Wrong breath type	8 (22%)
Didn't hold breath	7 (19%)
Bad seal	5 (14%)
Coordination issues	4 (11%)
Incorrect loading	3 (8%)
Didn't shake the inhaler	3 (8%)
Pierced capsule multiple times	2 (5%)
Physical difficulties	2 (5%)
Incorrect spacer use	1 (3%)
Lying down to administer dose	1 (3%)
Back-to-back dosing	1 (3%)

DISCUSSION

Most COPD inpatients are using their inhalers incorrectly and lack regular technique assessments, which has implications on the effectiveness of prescribed treatments. This project highlights the hospital setting as a prime opportunity to assess and optimise inhaler technique and therapy.