

# Evaluation of proper use of turbuhaler inhaler in adult asthmatic patients


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By :

# Introduction

- ❖ Asthma is a chronic inflammatory disease of the airways associated with bronchial hyper-responsiveness and reversible airflow obstruction
- ❖ The incidence and prevalence of asthma have increased during the past 20 years .
- ❖ The primary goal of asthma treatment is to control symptoms and to reduce emergency department (ED) visits for acute asthma treatment .



The administration of corticosteroids via inhalation is considered the optimal route for appropriate drug delivery for treatment of bronchial asthma and could reduce asthma hospitalizations by as much as 80%


- ❖ The most important advantage of inhaled therapy is the direct, localized delivery of a high concentration of drugs to the airways with minimal systematic side effects
- ❖ A small scale prospective study found that 92% of users have a poor inhaler technique; moreover, 94% of healthcare staff teaches a poor technique



## special group

➤ A substantial body of evidence has shown that incorrect inhaler technique is particularly common among special population includes:

- 1) Elderly patients
- 2) Patients with COPD
- 3) Patients with cognitive impairment
- 4) Patients with lower education levels have been associated with an increased rate of incorrect technique.
- 5) Patients with concurrent use of multiple inhaler types with different techniques can confuse patients

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- ▶ A large body of evidence from randomized clinical trials has shown that patients' inhaler technique can be improved by education from a health professional or other person trained in correct technique
  - ▶ published studies from around the world suggest that as many as 25% of patients with asthma have never received verbal inhaler technique instruction
  - ▶ Several studies have demonstrated that community pharmacists can provide effective training in correct inhaler technique



## **Aim of study**

- Evaluate the inhaler technique among asthmatic patients in Basra city.
- Evaluate patients characteristics along with factors associated with the improper use of inhaler devices.

## Material and method

### ➤ Study design

- Study was carried out in 94 adult asthmatic patients ( $\geq$  18 years of age) in community pharmacy, allergy and asthmatic center and AL-Basra General Hospital in Basra city in order to evaluate their inhaler technique .
- The study was conducted between February 2018 to May 2018. All data are collected by patient's questioning.



## Subjects

- All patients 18 years of age or older. The enrolled patients had a documented diagnosis of bronchial asthma as diagnosed by their primary physician and were on a prescribed Sympecort **Turbuhaler** .
- Exclusion criteria included age less than 18 years, pregnant, mentally impaired, patients with COPD or other comorbid diseases.
- The determination whether the patient knew how to use the prescribed inhaler properly following specific steps in the check list (Table 2.1). All patients were observed for two trials of using their inhalers and improper use was suggested if patients incorrectly done any step in check list.

# Material and method

Checklists for Correct Technique for Turbuhaler
1. Hold upright without occluding air vents
2. Turn coloured wheel one way, then back
3. Breathe out normally and away from mouthpiece
4. Seal lips around mouthpiece without occluding air vents
5. Inhale forcefully and deeply
6. Hold breath for at least 5 seconds
7. Exhale but not through inhaler

**Table (2.1): Checklists for Correct Technique for MDI**



## ➤ **Materials**

- Demographic information and objective data, including prescribed medications, were collected from patients and entered into Microsoft Access database and analyzed.

# Results

**Table 3.1 Patient demographics and clinical characteristics**

Characteristic of patients N= 96	Number of patients	Mean or % of patients
Male	37	38.54
Female	59	61.45
Age (mean $\pm$ SD)		42.3 $\pm$ 16.7
BMI (mean $\pm$ SD)		26.05 $\pm$ 0.49
Education status		
Primary	42	43.75
Secondary	7	7.3
Higher education	33	34.37
Not educated	14	14.58
Duration of illness, N. (%) > 1 Year	66	68.75
Received health education about proper use of inhaler from a physician	37	38.54
Received health education about proper use of inhaler from a pharmacist	32	33.33
Improper use of inhaler devices	62	64.58
Proper use of inhaler devices	34	35.41

<b>Characteristics</b>	<b>Level</b>	<b>Proper 34 (35.41)</b>	<b>Improper 62 (64.58)</b>	<b>Significant</b>
<b>Educational level</b>	<b>Primary</b>	<b>9 (9.37)</b>	<b>33(34.37)</b>	<b>0.01</b>
	<b>Secondary</b>	<b>3(3.12)</b>	<b>4</b>	<b>0.62</b>
	<b>Higher education</b>	<b>16 (16.66)</b>	<b>17</b>	<b>0.58</b>
	<b>Not educated</b>	<b>6(6.25)</b>	<b>8</b>	<b>0.72</b>
<b>Gender</b>	<b>Male female</b>	<b>12 22</b>	<b>25 37</b>	<b>0.11</b>
<b>Education about asthma</b>	<b>Yes No</b>	<b>20 (28.8) 14(14.5)</b>	<b>16(16.6) 46(47.9)</b>	<b>0.001</b>
<b>Received health education about proper use of inhaler from a physician</b>	<b>Yes No</b>	<b>19(19.79) 15(15.6)</b>	<b>18(18.75) 44(45.83)</b>	<b>0.002</b>
<b>Received education about proper use of inhaler from a pharmacist</b>	<b>Yes No</b>	<b>18(18.75) 16(16.66)</b>	<b>14(14.58) 48(50)</b>	<b>0.02</b>

The image features a white background with decorative floral elements. In the top-left corner, there is a pink flower with a red center and several green leaves. In the bottom-right corner, there are two more pink flowers with red centers and green leaves. The text 'Thank You' is centered in a large, black, cursive font.

Thank  
You