

Improvement of Inhalation Technique in Patients with Asthma or COPD in Community Pharmacies (VITA)

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Background

Inhaled therapy delivering bronchodilator and corticosteroid drugs is the mainstay of treatment in patients with asthma and COPD. However, although effective drugs are available, data indicate that the disease in most patients is not well controlled. One reason can be found in the inability of patients to use their inhaler devices correctly (1, 2).

Objectives

- To survey the quality of inhalation technique of patients with asthma or COPD
- To determine the effect of a single intervention in community pharmacies (CP) by means of standardized procedures

Design and Setting

757 patients with asthma or COPD were randomly selected by 55 CP with a special interest in asthma/COPD. At baseline (t_1), patients were interviewed before they were asked to perform their inhalation technique with their own inhaled medication. The procedure was monitored with a 21-items checklist and any error was recorded. If necessary, patients were instructed in the proper use of the device and inhalation, and they were given the opportunity to practice the procedure again. Four to six weeks later (t_2) demonstration of inhalation technique was repeated in the CP and a pre-post-comparison was performed.

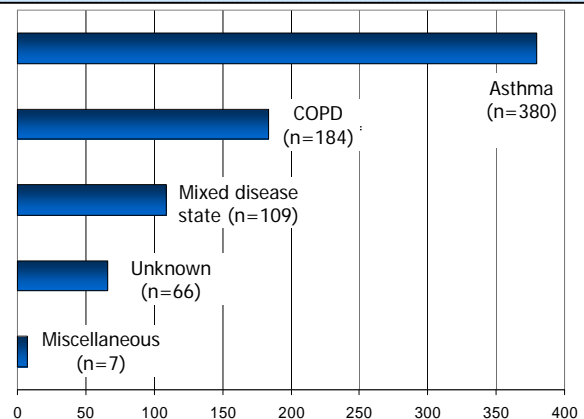
Main Results

597 patients (78.9 %) made at least one mistake in performing the inhalation technique at baseline (t_1). This number dropped to 214 (28.3 %) from the first to the second appointment (t_2) ($p < 0.001$, McNemar-Test). The average number of errors dropped from 2.5 to 0.5 per patient ($p < 0.001$, t-test). The quality of inhalation technique showed neither significant dependencies on different inhaler devices nor on socio-demographic data like age, gender or education. All patients did benefit from the pharmacist's intervention regardless of their former training experiences.

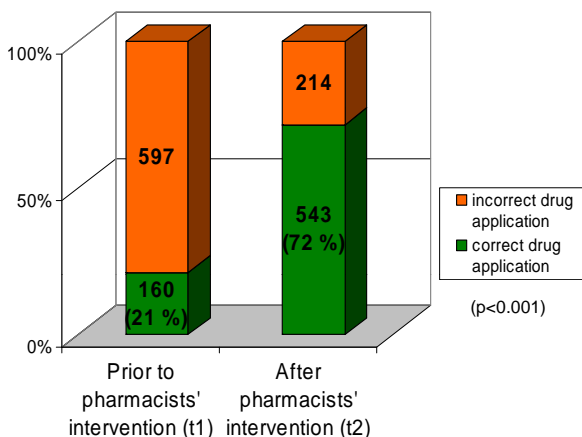
Baseline characteristics of study participants

Age	61 years (SD: 15.2, range 18-94)
Gender	Male: 298 (39.4 %)
Primary education	10 years
Duration of disease	14 years (SD: 13.5, range: 0-70)
Duration of inhalation therapy	11 years (SD: 10.4, range: 0-70)
Participation in a disease management program (DMP)	Yes: 65 (8.6 %)
Number of inhalation medications used regularly	1: 292 (38.6 %) 2: 330 (43.6 %) 3: 107 (14.1 %) 4(+): 26 (3.4 %)

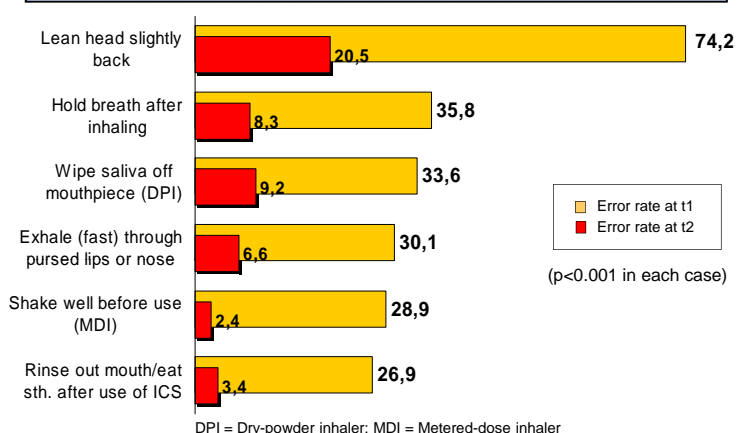
Distribution of indicated diagnoses (N=746)



No. of patients with correct/incorrect inhalation



Most common mistakes as percentages



Conclusions

There is a clear need for specific training of patients in correct inhalation technique. To ensure error-free conducts of inhalation technique by asthma or COPD patients under real life conditions, repeated interventions are required. Qualified CP are in an ideal position to perform these tasks. Implementation of this service in daily CP practice is highly recommended.

References

- Crompton, G. K., et al., The need to improve inhalation technique in Europe: a report from the Aerosol Drug Management Improvement Team. *Respir. Med.* 100 (2006) 1479-1494.
- Fink, J. B. and Rubin, B. K., Problems with inhaler use: a call for improved clinician and patient education. *Care* 50 (2005) 1360-1374.