



Long-term maintenance of pharmacists' inhaler technique with a novel educational tool

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Dry Powder Inhalers

- Efficient devices, however, incorrectly used
- Turbuhaler (TH) - Incorrect technique is common (54% of patients)
- Accuhaler/Diskus (ACC) - Incorrect technique is common (50% of patients)





Pharmacists and technique

- Pharmacists provide patients with their inhalers (new or refill)
- Pharmacists are in an excellent position to educate patients on correct inhaler technique
- However, few pharmacists review and educate their customers on inhaler technique

(Osman 1999, Nimmo 1993)



Why?

- Incorrect inhaler technique:
 - Health care providers (**various devices**): **31- 85%**
 - Pharmacists **TH: 43 - 71% , ACC: 55%**
- Lack of confidence
- Perception that advice may not be welcome

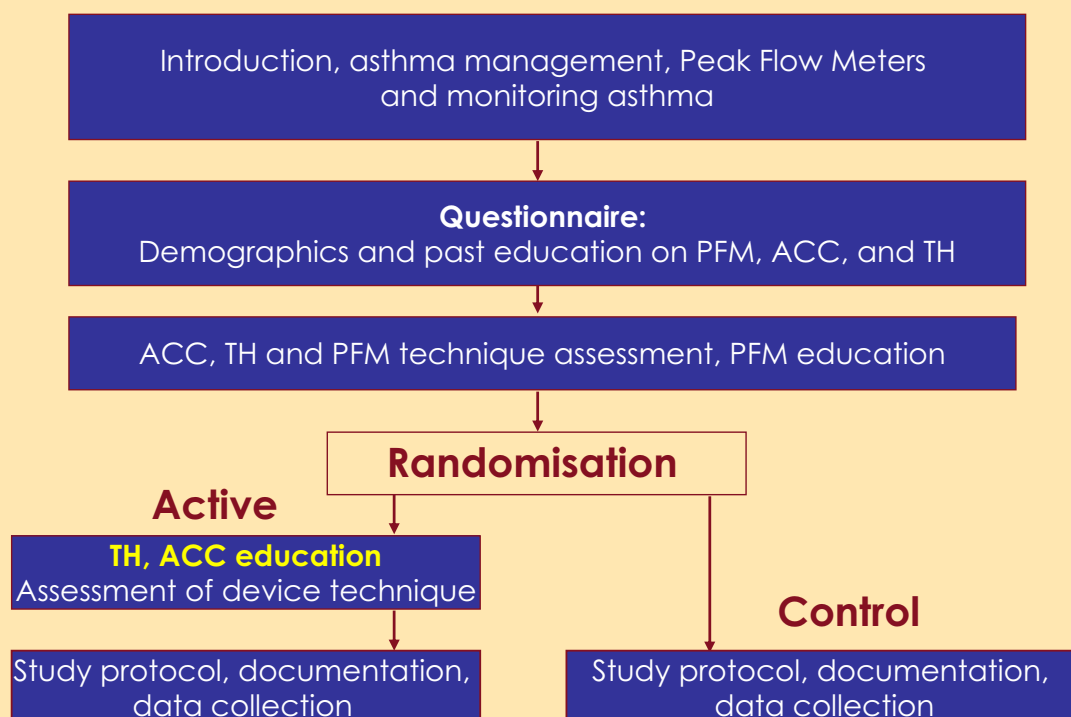
(Osman 1999, Narhi 2000, Schulz 2001, Chopra 2002, Kesten 1993)

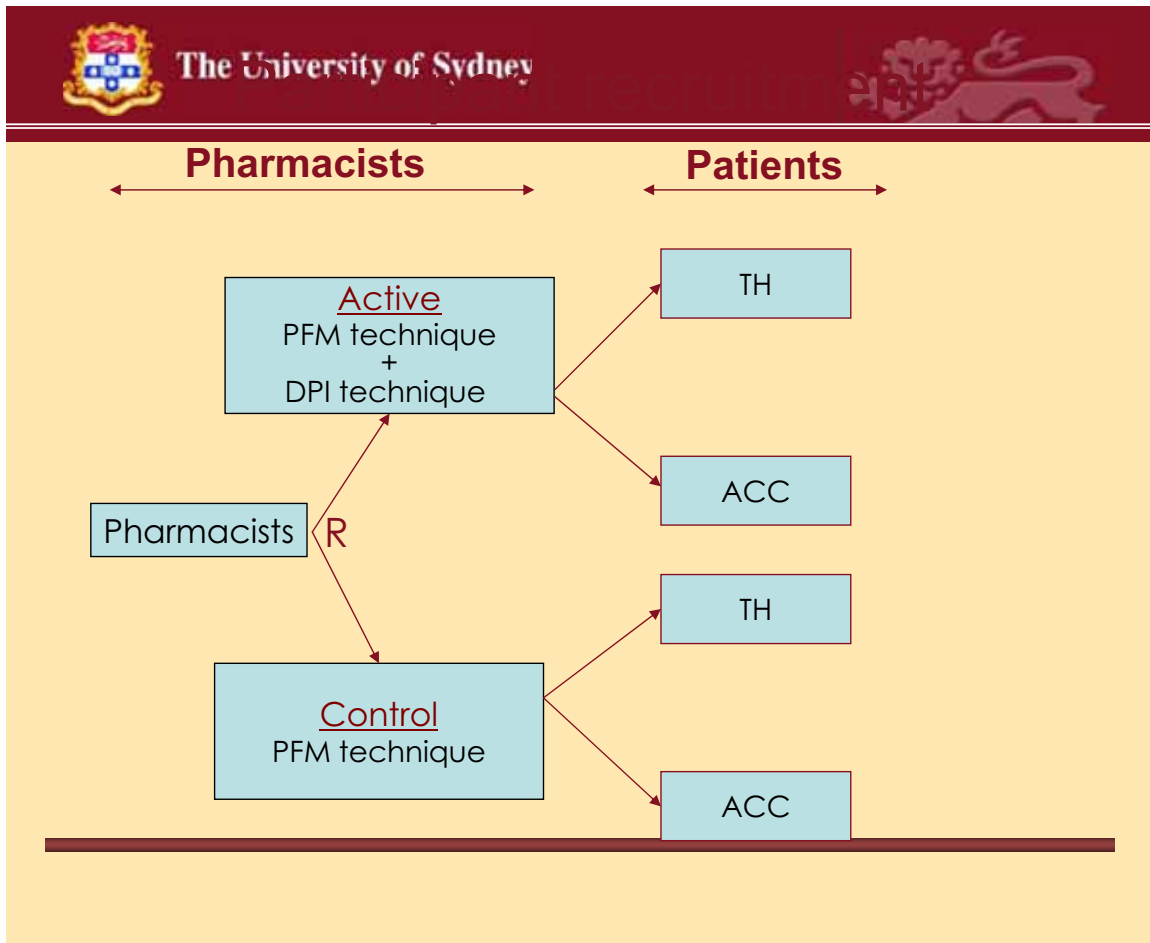


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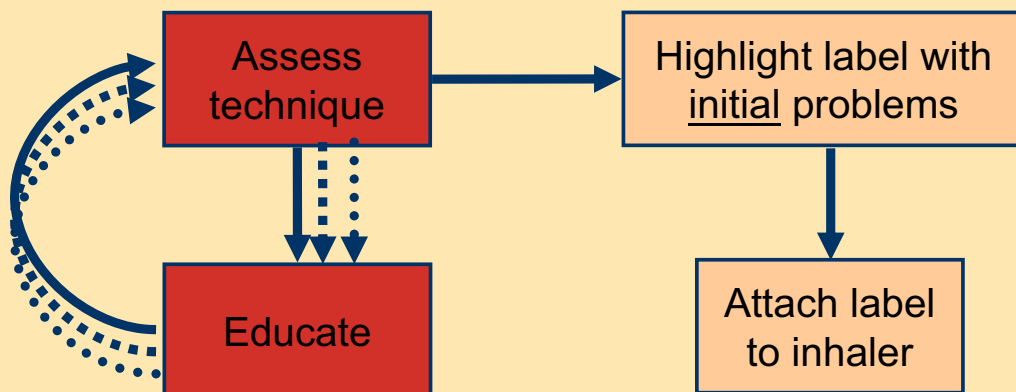
To compare the effect of a pharmacist intervention, focusing on device technique training vs. standard practice, on pharmacists' inhaler technique skills short-term and long-term

The educational workshop for pharmacists





Inhaler technique intervention





Inhaler Technique Checklists

Turbuhaler

- 1 - Remove cap from inhaler
- 2 - Keep inhaler upright
- 3 - Rotate grip until "click"
- 4 - Exhale to residual volume
- 5 - Exhale away from the mouth piece
- 6 - Mouth piece between teeth and lips
- 7 - Inhale forcefully and deeply
- 8 - Hold breath for 5 seconds
- 9 - Exhale away from mouth piece

Accuhaler/Diskus

- 1 - Open inhaler
- 2 - Push lever back completely
- 3 - Exhale to residual volume
- 4 - Exhale away from mouthpiece
- 5 - Mouthpiece between teeth and lips
- 6 - Inhale forcefully and deeply
- 7 - Hold breath for 5 seconds
- 8 - Exhale away from mouthpiece
- 9 - Close inhaler

Score 1 point for each correct item (max 9)

(Van der Palen, 1998)



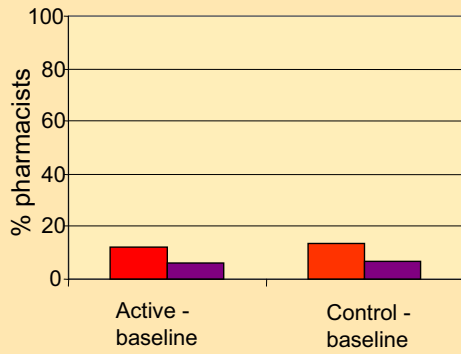
Pharmacists' demographics

	Active (n=16)	Control (n=15)
% Male	41%	59%
Age (mean \pm SD)	40.4 (\pm 10.7)	33.4 (\pm 9.3)
Years in practice (mean \pm SD)	16.1 \pm 11.4	10.1 \pm 9.4

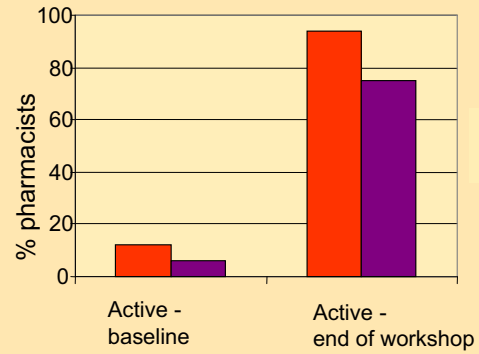


Proportion of pharmacists with correct technique before and after education

Before education (Active and Control)



Before and after education (Active)

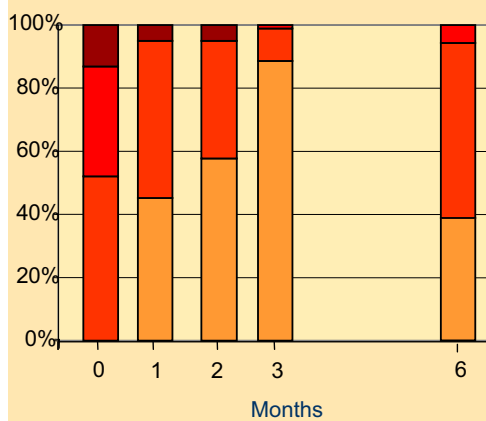


TH
ACC

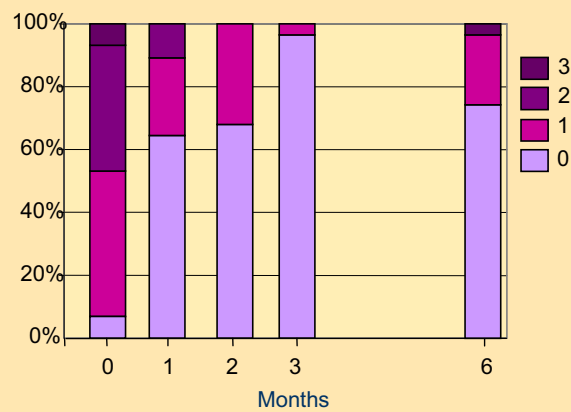


Active group – followed for 6 months Number of repeats of "show and tell" counselling

TH group

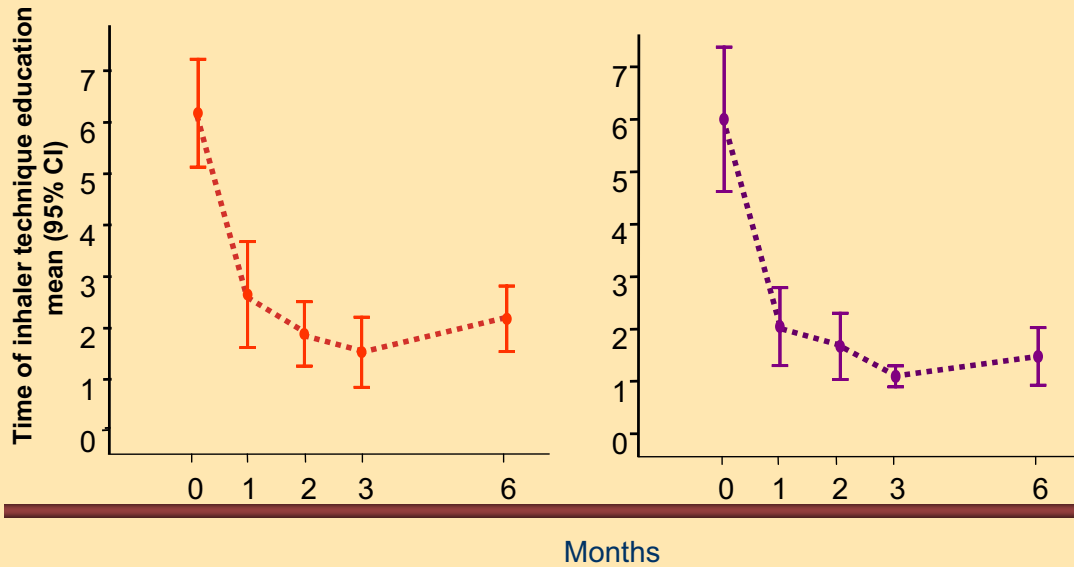


ACC group

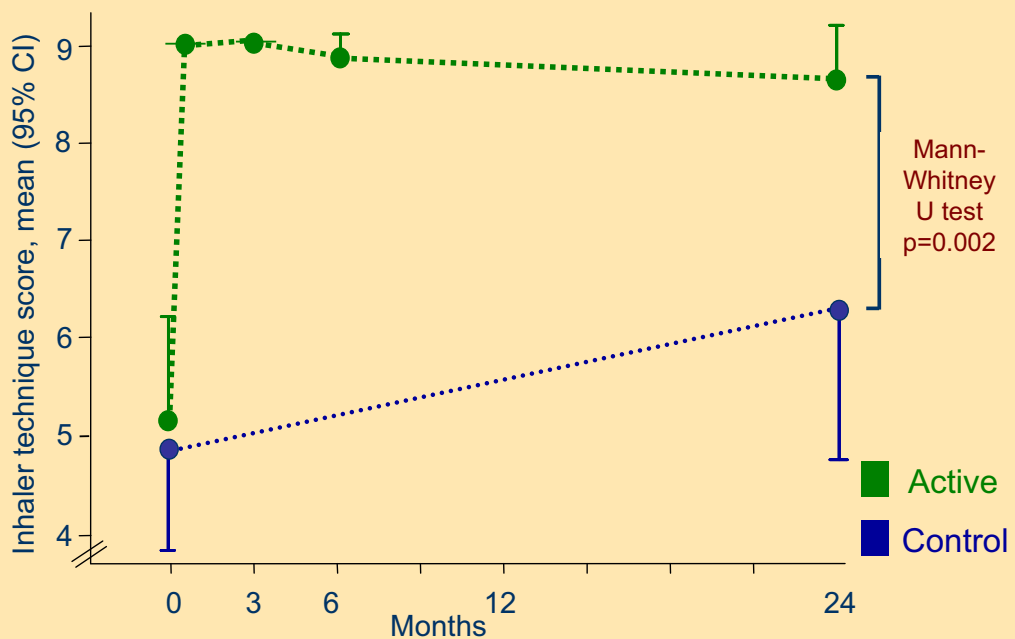




Time for delivering the education (mins) (TH) (ACC)



Pharmacist technique - TH



Similar results for ACC



Patients' data:

Pharmacist intervention focusing on inhaler technique was significantly better than a standard intervention on:

- * Inhaler Technique
- * Peak Flow Variability
- * Asthma Related Quality of Life
- * Perceived Control
- * Daily reliever use
- * Mean Daily Peak Flow
- * Asthma severity

(Basheti I 2007)

Summary

- Inhaler technique is poor - pharmacists and patients
- Simple intervention about DPI technique
- ✧ “Train the trainer” in a brief evening workshop
 - ◆ Feasible for delivery in community pharmacy (<5 mins)
 - ◆ Effective in improving inhaler technique - Both pharmacists and patients
 - ◆ Optimal inhaler technique skills for pharmacists long-term
 - ◆ Improved asthma outcomes for asthma patients
 - ◆ This type of intervention is feasible and sustainable in clinical practice
- A continuing professional development module for health professionals has been developed