

Association between baseline adherence profile and response to a motivational communication intervention targeting medication adherence in patients with asthma:

Predicting who will benefit most from behavior change counselling

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INTRODUCTION

- Adherence daily inhaled corticosteroids (ICS) is critical for optimal asthma control
 - Adherence rates as low as 32%
 - Less than 66% of ICS prescriptions filled
- Development of interventions targeting adherence is needed

AIM:

- Explore how baseline adherence profile moderated the impact of a brief motivational intervention
 - adult asthma patients from a tertiary care centre
 - controlled pilot trial assessing the efficacy of brief motivational counselling on ICS adherence

RESULTS:

- Significant 3-way interaction between the experimental group and time as a function of baseline adherence (F=5.07, p=.029) for 1 year adherence

	Main Effect		Interaction Effect	
	F	p	F	p
Group	0.14	.706	0.14	0.712
Baseline Adherence	12.64	<.001	12.52	<.001
Time	0.15	.696	0.40	.531
Group X Time	0.63	.431	0.73	.397
Group X Baseline Adherence	-	-	1.00	.323
Group X Time X Baseline Adherence	-	-	5.07	.029

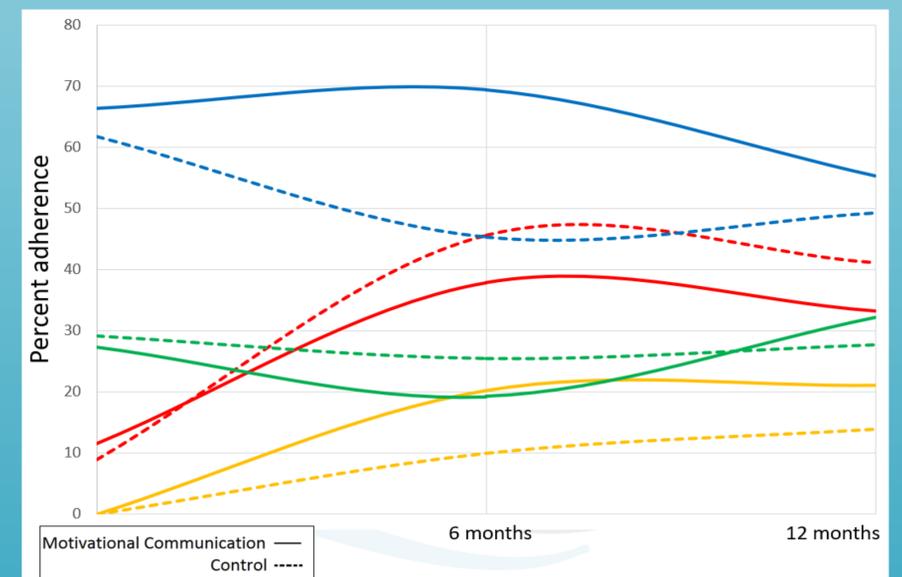
METHODS:

- Sample of 44 poorly controlled asthmatics
- Adherence behavior in the past year and at 12 months post-intervention was measured
 - medication possession ratio (MPR); calculated with pharmacy data
- Repeated measures general linear models adjusting for age, sex and levels of asthma control – associations between baseline adherence profiles and improvements in adherence at 12 months

$$\frac{\# \text{ of treatment days}}{\# \text{ prescription days}} = \frac{\# \text{ of canisters filled at the pharmacy} \times \text{duration of each prescription}}{\# \text{ of days the patient is expected to take the medication, based on their prescription}}$$

$$= \frac{10 \text{ canisters} \times 30 \text{ days}}{365.25} = \frac{300}{365.25} = 82\%$$

Percent adherence by time and experimental group – mean Δ



PARTICIPANT CHARACTERISTICS:

	Total (N=54)	MC Group (N=26)	Control Group (N=28)
Age ± SD	50 ± 16	52 ± 15	49 ± 16
Men, N [%]	21 [39]	13 [50]	8 [29]
Education Level (≥ 12yrs) N [%]	30 [56]	12 [46]	18 [64]
Years Living with Asthma ± SD	24 ± 18	21 ± 17	26 ± 20
Asthma Control ± SD	1.91 ± 1.01	1.7 ± 0.9	2.1 ± 1.1

Sample was split into quartiles according to baseline adherence:

Group	Mean [range] level of Adherence at Baseline	N
No adherence	0 [0-0]%	12
Low adherence	10 [1-16]%	14
Medium adherence	30 [18-33]%	14
High adherence	64 [35-99]%	14

CONCLUSION:

- Baseline adherence profiles impact responses to the MC intervention:
 - MC may be particularly effective in improving adherence among **completely non-adherent** asthmatics and may help **maintain** adherence level in individuals with good adherence at baseline, compared to UC (boosters)
- Results show MC intervention may result in participants filling as much 2-3 canisters extra/year (Asthma-related mortality decreases by 21% with each additional canister)
- Supports the use of MC approaches by healthcare professionals as a means to optimize medication adherence in asthmatics

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