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Title: Differences in adherence to common inhaled medications in COPD

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Body: Objective: To study differences in adherence to common inhaled medication in COPD. Methods: Therapy adherence of 795 patients was recorded from pharmacy records over 3 years. It was expressed as percentage and deemed good at 75–125%, sub-optimal 50-75%, and poor <50% or >125%. Some patients used more than one medication, so we present 1377 medication periods. Results: The percentages of good adherence ranged from 43.2 (beclometason) - 75.8% (tiotropium); suboptimal from 2.3 (budesonide) - 23.3% (fluticasone); <50% from 4.4 (formoterol/budesonide) – 18.2% (beclometason); and >125 from 5.1 (salmeterol) - 38.6% (budesonide). (table 1)

Table 1: Number (%) of patients in the adherence subgroups

medication	Good 75-125%	Sub-optimal 50-75%	Poor <50%	Poor >125%
Fluticasone (n=73)	46 (63.0)	17 (23.3)	4 (5.5)	6 (8.2)
Salmeterol (n=39)	26 (66.7)	6 (15.4)	5 (12.8)	2 (5.1)
Salmeterol/Fluticasone (n=500)	295 (59.0)	95 (19.0)	55 (11.0)	55 (11.0)
Budesonide (n=44)	23 (52.3)	1 (2.3)	3 (6.8)	17 (38.6)
Formoterol/Budesonide (n=91)	56 (61.5)	12 (13.2)	4 (4.4)	19 (20.9)
Tiotropium (n=566)	429 (75.8)	68 (12.0)	36 (6.4)	33 (5.8)
Ciclesonide (n=22)	15 (68.2)	3 (13.6)	0	4 (18.2)
Beclometason (n=44)	19 (43.2)	7 (15.9)	8 (18.2)	10 (22.7)

Conclusion: Tiotropium showed the highest adherence, followed by ciclesonide, both dosed once daily. Adherence with solely salmeterol and fluticasone is higher than the combined preparation. For formoterol/budesonide adherence is better than budesonide alone. The idea of improving adherence by

using combined preparations cannot be confirmed in this study.