

Impact of Aptar Digital Health (ADH) Respiratory Platform on Adult Asthma Healthcare Cost

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Introduction

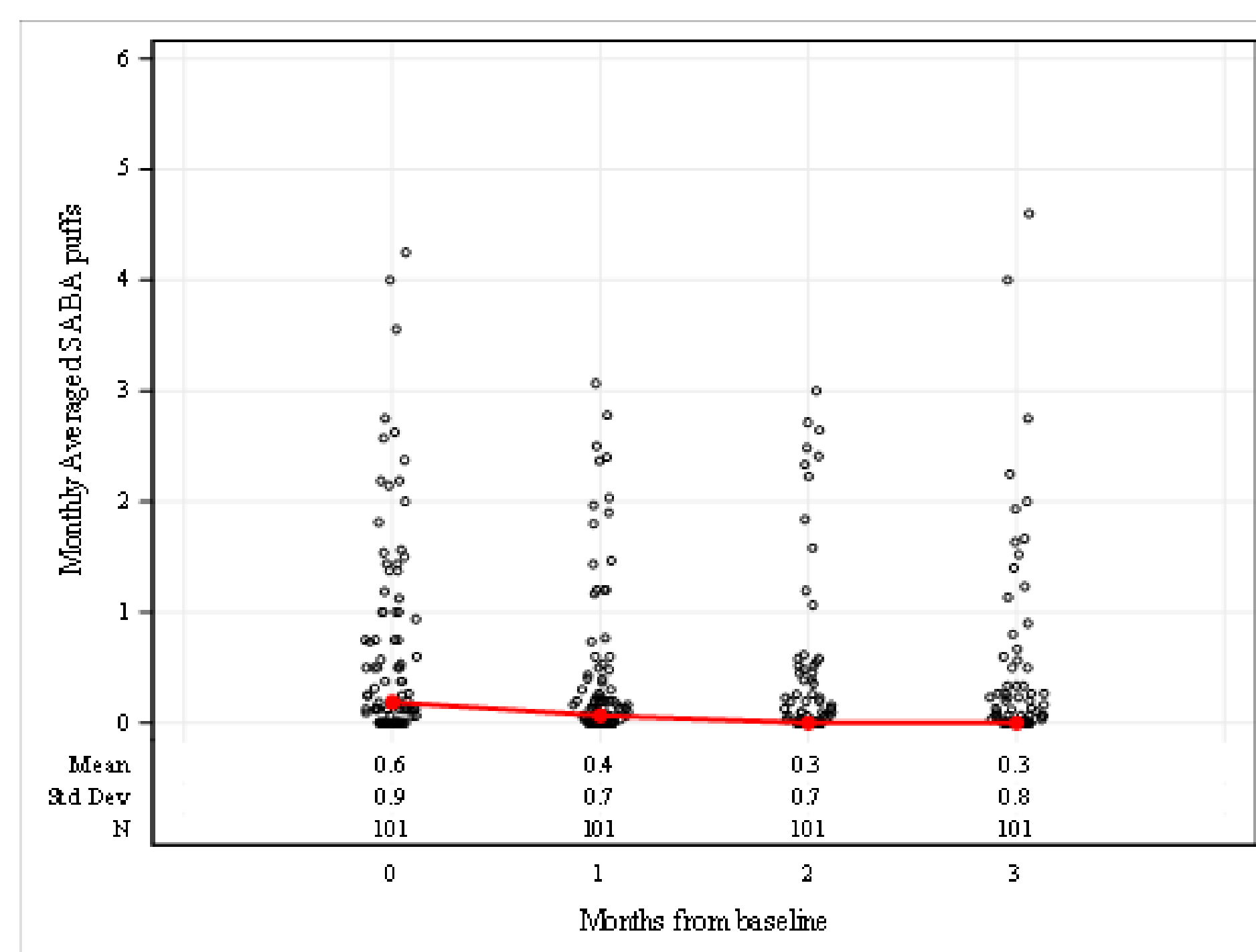
- ADH respiratory platform, a DTx, includes a connected mobile spirometer, which tracks lung function; the BreatheSmart connected medical device, which tracks medication adherence, and the BreatheSmart mobile application, which provides medication reminders and tailored educational information.
- 104 patients in the US used the ADH respiratory platform for 90-days.
- Main objective was to determine the impact of the ADH respiratory platform on medication adherence and its correlation with exacerbation reductions and cost.
- Secondary objectives were to determine the impact of the platform on asthma control and rescue medication usage and to obtain patient feedback about the platform.

Statement of Problem

- Annual health care costs for asthma patients with exacerbations is \$14,359 and without exacerbations is \$7,802 (inflated to 2022 values based on BLS medical care CPI).
- US asthma medication adherence = 22.2%.
- Digital therapeutics (DTx) are utilized to improve controller medication adherence and asthma control.

Results

- Controller medication adherence across all patients (N=98) at T₃ was 67%, which is 45% higher than the US asthma medication average of 22.2%.
- Increased controller adherence of 45% translates to a 20% reduction, or 2.5 less patients, having ≥ 1 exacerbation, resulting in a potential savings of \$16,878 annually.
- 100 participants completed the ACT at baseline, T₀, while 96 participants completed the ACT 3-months later, T₃. Between T₀ and T₃, ACT scores increased significantly (baseline: 16.5 ± 4.7; ΔT₀ to T₃: + 2.8, 95% CI (2.0, 3.6), p-value <0.001).
- T₀ ACT scores (16.5) indicated asthma was not well controlled while T₃ scores (19.3) indicated well-controlled asthma.
- There is a weak negative correlation (correlation = -0.16) between the change in ACT scores and rescue medication use between T₀ and T₃, which supports prior evidence demonstrating the correlation between improved ACT scores and reduced rescue medication usage.
- Rescue medication use decreased 44% between T₀ and T₃ (95% CI: 14.1, 63.5), p-value = 0.008).



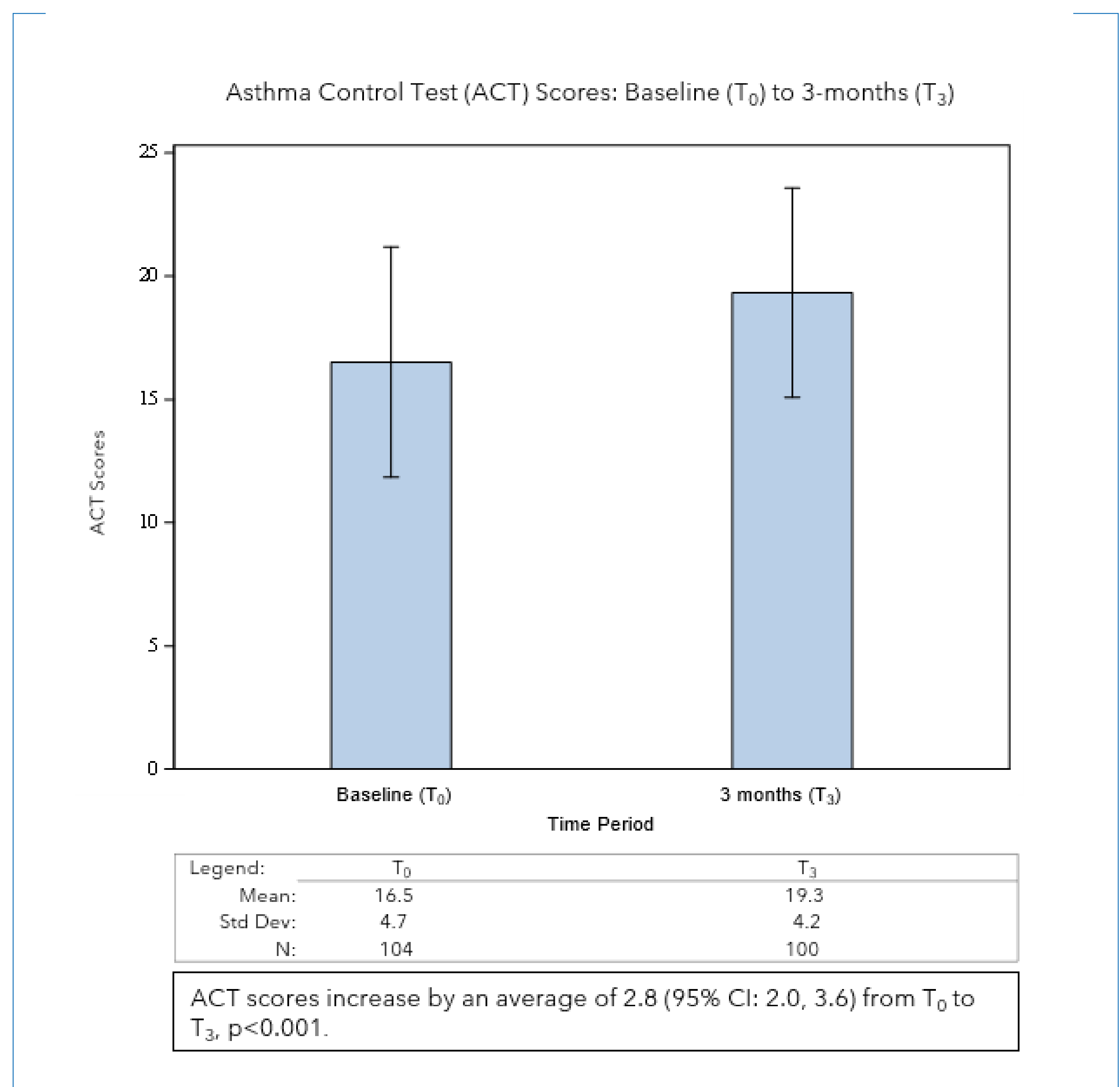
Rescue use decreased by 44% (95% CI: 14.1, 63.5) from baseline to 3 months, p=0.008.



Survey Results (N=40): Patient Acceptance of the Platform (Percentage)		
	Yes	No
Are you interested in continuing to use the ADH respiratory platform after the end of the study period?	90%	10%
Would you recommend the ADH respiratory platform to other people with asthma?	95%	5%
Would you use the ADH respiratory platform if your doctor prescribed it?	97.5%	2.5%

Conclusion

- Use of the ADH respiratory platform:
 1. Increases medication adherence and asthma control.
 2. Decreases rescue medication utilization and exacerbations.



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