Supplemental Figure E1: Asthma control during study treatment for participants assigned to mometasone and placebo for (a) participants ages 6-11 years measured by the Childhood Asthma Control Test and for (b) participants for participants 12 years of age and older measured by the Asthma Control Test.

Supplemental Table 1: Characteristics of the study population at randomization stratified by availability of the ACT or cACT questionnaire at 24 weeks.

| | Non-completers (N = 69) | | Completers (N = 319) | |
|---|---|---|---|---|
| **Therapy, N(%)** | | | | |
| Placebo | 35 | (18%) | 164 | (82%) |
| Mometasone | 34 | (18%) | 155 | (82%) |
| **Demographics** | | | | |
| Age in years, Median (IQR) | 21 | (14, 35) | 28 | (12, 45) |
| Age categories, N (%) | | | | |
| Pediatric (6-11 years old) | 15 | (22%) | 71 | (22%) |
| Adolescent (12-17 years old) | 11 | (16%) | 54 | (17%) |
| Adult (18 and older) | 43 | (62%) | 194 | (61%) |
| Race/ethnicity, N (%) | | | | |
| White | 26 | (38%) | 121 | (38%) |
| Black | 29 | (42%) | 118 | (37%) |
| Hispanic | 14 | (20%) | 67 | (21%) |
| Other | 0 | ( 0%) | 13 | (4%) |
| Male, N (%) | 34 | (49%) | 143 | (45%) |
| Second-hand smoke exposure, N (%) | 13 | (19%) | 79 | (25%) |
| **Asthma characteristics** | | | | |
| Age of asthma onset, Median (IQR) | 5 | (2, 13) | 5 | (1, 13) |
| Emergency visits in the past 12 months, N (%) | 53 | (77%) | 195 | (61%) |
| Steroid bursts in the past 12 months, N (%) | 39 | (57%) | 151 | (47%) |
| Using controller medication, N (%)* | 42 | (61%) | 236 | (74%) |
| ICS in combination with LABA | 26 | (38%) | 140 | (44%) |
| ICS without LABA | 16 | (23%) | 95 | (30%) |
| **Lung function, Median (IQR)** | | | | |
| Pre-bronchodilator $FEV_1$ (% predicted) | 86 | (76, 96) | 85 | (74, 95) |
| Pre-bronchodilator FVC (% predicted) | 100 | (92, 108) | 95 | (84, 105) |
| Pre-bronchodilator $FEV_1$/FVC | 0.74 | (0.67, 0.77) | 0.76 | (0.69, 0.81) |
| Peak expiratory flow (L/min) | 360 | (300, 440) | 340 | (280, 420) |
| $PC_{20}$ (mg/mL) | 0.75 | (0.25, 3.63) | 1.34 | (0.29, 4.31) |
| **Questionnaires, Median (IQR)** | | | | |
| ACT score (range: 5-25) ↑† | 16 | (14, 19) | 17 | (14, 19) |
| cACT score (range: 0-27)↑† | 18 | (16, 19) | 17 | (14, 19) |
| Asthma symptom utility index (range: 0-1) ↑‡ | 0.83 | (0.71, 0.89) | 0.77 | (0.69, 0.88) |

| | | | | |
|---|---|---|---|---|
| Marks asthma quality of life questionnaire (range: 1-80)↓ § | 18 | (10, 39) | 19 | (11, 30) |
| Children's health survey for asthma (range: 0-100)↑** | | | | |
| Physical health (child) | 75 | (67, 85) | 77 | (70, 87) |
| Activities (child) | 85 | (70, 95) | 85 | (65, 100) |
| Activities (family) | 96 | (88, 100) | 92 | (83, 100) |
| Emotional health (child) | 90 | (55, 100) | 80 | (60, 95) |
| Emotional health (family) | 76 | (71, 90) | 79 | (69, 90) |
| Sinus symptom score (range: 1-60) ↓‡ | 26 | (17, 33) | 25 | (17, 33) |
| SNOT-22 (range: 0-120)↓ § | 37 | (18, 51) | 37 | (22, 54) |
| SN-5 (range: 1-7)↓** | 3.2 | (2.8, 4.6) | 3.6 | (2.8, 4.5) |

* One individual was using LABA without ICS.
† The ACT was administered to participants 12 years of age and older and the cACT was administered to participants aged 6 to 11 years.
‡ The ASUI and SSS were administered to all participants.
§ The Marks asthma quality of life questionnaire and the SNOT-22 were administered to participants aged 18 and older.
** The Children's health survey for asthma and the SN-5 were administered to participants ages 6 to 11 years.

IQR = interquartile range; N = number; % = percent; ↑ = high scores indicate better health; ↓ = low scores indicate better health

ST2: New Sinus and new/increasing asthma medication use during treatment period of trial

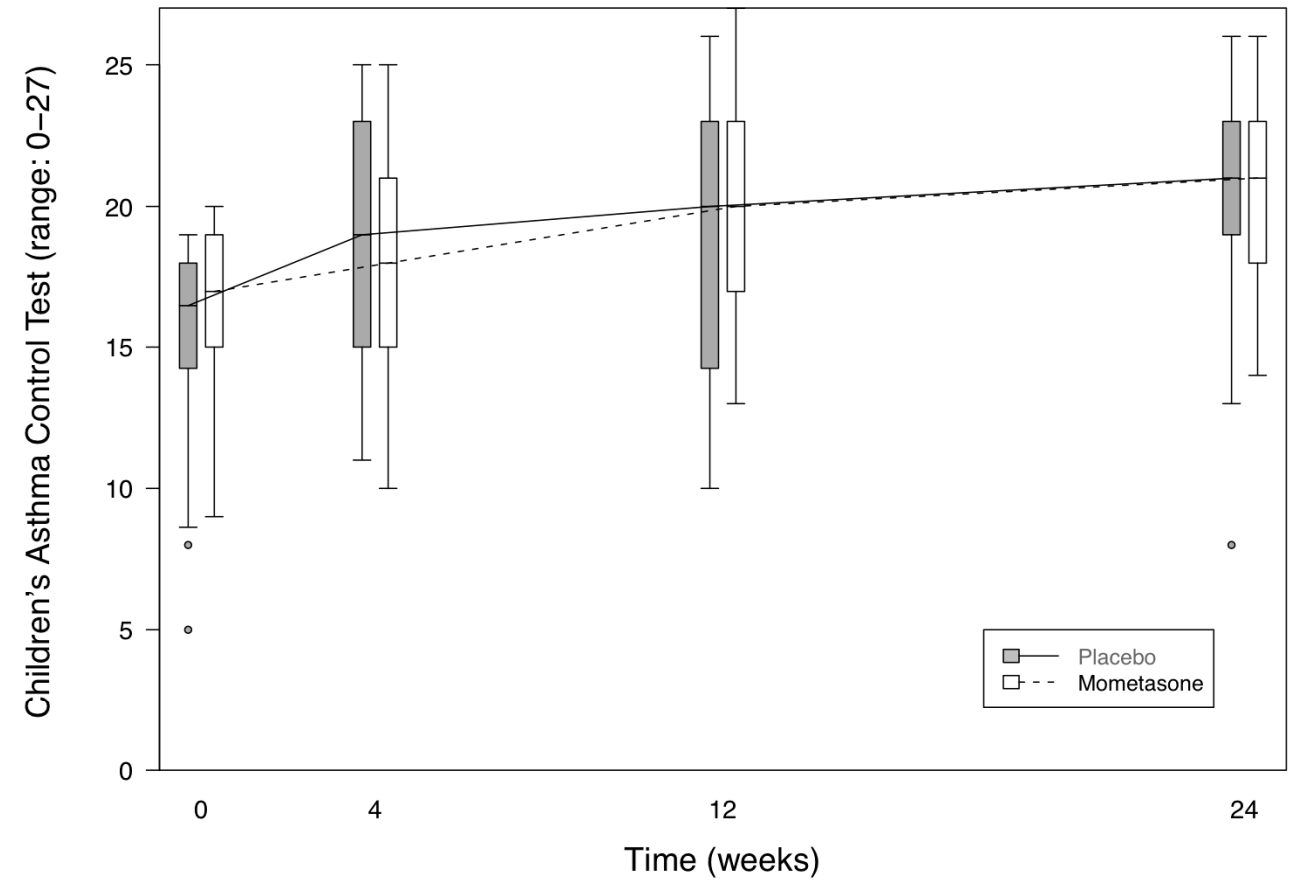
| | Mometasone | | | Placebo | | | |
|---|---|---|---|---|---|---|---|
| | N | New users | % | N | New users | % | P* |
| **Children** | | | | | | | |
| Started new sinus med. | 66 | 23 | 35 | 75 | 23 | 31 | 0.60 |
| Started or increased dose of asthma med. | 66 | 12 | 18 | 75 | 9 | 12 | 0.30 |
| **Adults** | | | | | | | |
| Started new sinus med. | 111 | 35 | 32 | 111 | 38 | 34 | 0.67 |
| Started or increased dose of asthma med. | 111 | 6 | 5 | 111 | 9 | 8 | 0.42 |

*P-value based on Chi-square test comparing proportion of participants in each treatment group.

New Sinus medication did not include nasal steroids which were not permitted in this study, but included antihistamines and decongestants, which were permitted.

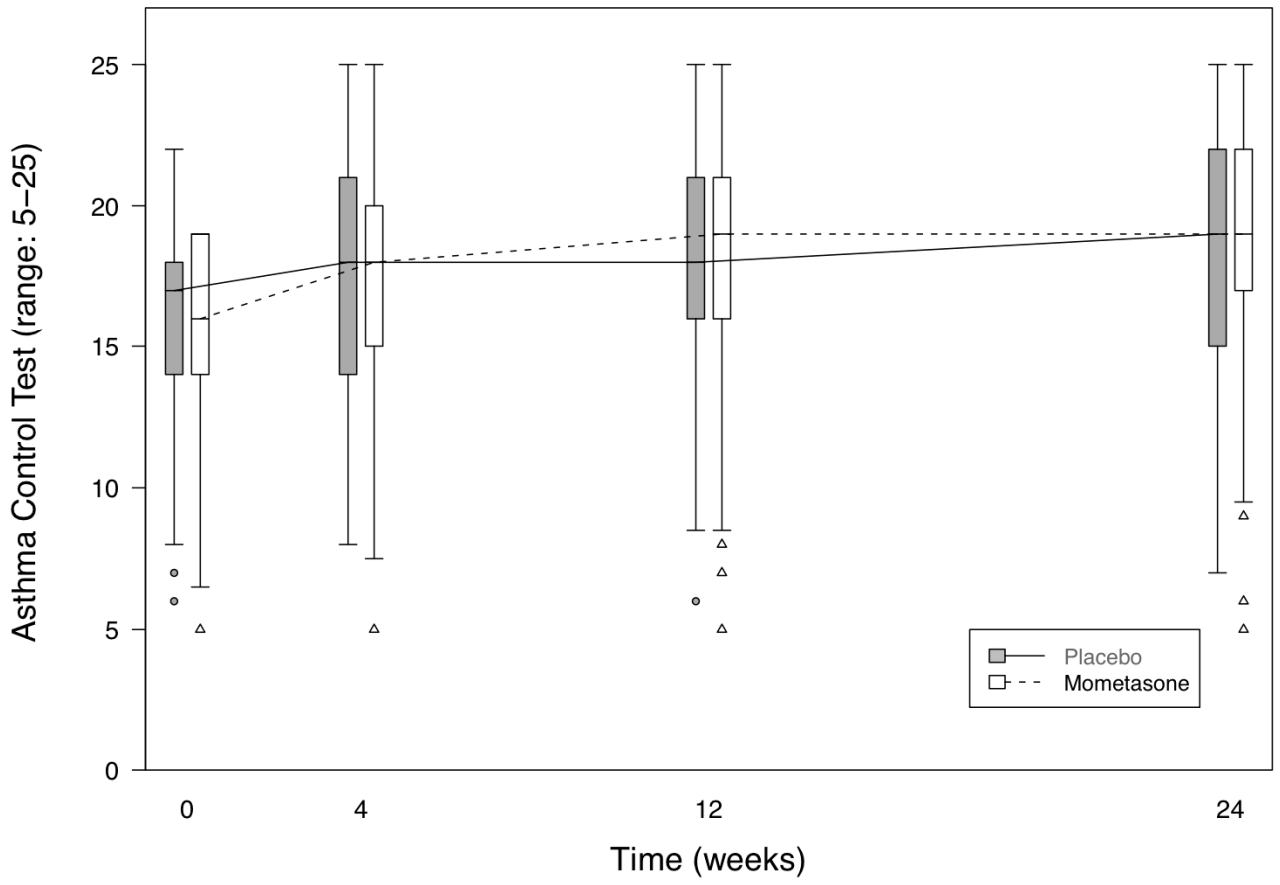
Supplemental Figure E1:

(a)




| | | | | |
|---|---|---|---|---|
| # Placebo | 46 | 45 | 38 | 37 |
| # Mometasone | 40 | 37 | 37 | 34 |

(b)




| | | | | |
|---|---|---|---|---|
| # Placebo: | 153 | 139 | 133 | 127 |
| # Mometasone: | 148 | 138 | 129 | 121 |