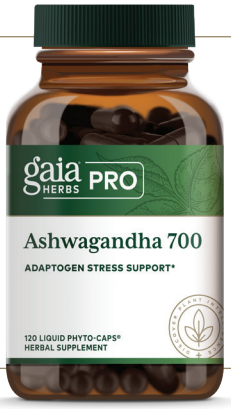
Ashwagandha 700

NEW CLINICAL EVIDENCE

BY ERIN MCKINNEY, MS

A randomized, double blind, placebo controlled, parallel group study to assess the effect of multi-herb formulae and an Ashwagandha root formula on the modulation of the hypothalamic-pituitary-adrenal axis (HPA axis) and related symptoms.



CLINICALLY STUDIED FORMULA

METHODS

This study was a randomized, placebo-controlled, double-blind study that assessed the impact of Gaia Herbs PRO's Ashwagandha 700 phyto-capsules and Daytime HPA phyto-capsules on the modulation of the hypothalamic-pituitary-adrenal axis (HPA axis) when compared to a placebo. 186 healthy participants were recruited, with 174 participants completing baseline assessments and included in the intent to treat (ITT) population (Adrenal n = 64, Ashwagandha n = 61, Placebo n = 61). Here we will focus on the Ashwagandha 700.

Participants ingested one capsule in the morning and one capsule in the evening of Ashwagandha 700. This schedule and dosage is in keeping with the marketed product's recommended use. Participants were assessed at day 0 (baseline), day 30, and day 60 for perceived stress using the Perceived Stress Scale (PSS). Additionally, participants were assessed for the investigational product's impact on sleep quality using the Pittsburgh Sleep Quality Index (PSQI), restorative sleep using the restorative sleep questionnaire weekly (RSQ-W), fatigue was using the Fatigue Severity Scale, and mood, anxiety, and stress using the Depression, Anxiety, Stress Scale-21 (DASS-21). Salivary cortisol and Adrenocorticotropic Hormone in plasma was also evaluated on Day 0, Day 30, and Day 60. Inclusion criteria included men and women who are moderately physically active per the International Physical Activity Questionnaire, BMI 18-29.9 mg/m2, and a PSS score ranging from 27-40 (high).

RESULTS

The treatment groups were comparable with respect to the demographic characteristics and set eligibility criteria recorded at the screening/Day 0 visit. The mean (min, max) age of these participants in the Ashwagandha group was 38.34(22.00, 61.00) and 37.03 (24.00, 55.00) for placebo group. In the total participant population 67.20% patients were female and 32.80% were male.

PERCEIVE STRESS SCALE (PSS):

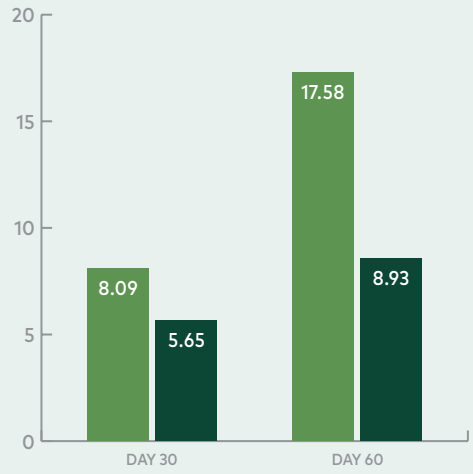
On the baseline visit, the mean Perceived Stress Scale score of both study groups were comparable with no statistically significant intergroup differences.

On Day 30 there was a statistical difference ($p = 0.0103$) in the change in the Ashwagandha arm compared to placebo. This equated to 57.1% of the participants in this arm shifting into a lower rated category for perceived stress.[1]

At Day 60 There was a statistical difference ($p < 0.0001$) in the change in the Ashwagandha arm when compared to placebo. This equated to 89.3% of the participants in the Ashwagandha arm experiencing a relevant reduction in perceived stress and shifted into a lower category.[1] By contrast, 42.1% of participants in the placebo shifted into a lower category on the PSS.

1 - There is no validated minimally clinically meaningful standard for PSS, although "responders" are defined as shifting into a lower category (high to moderate, moderate to low, etc).

CHANGE FOR PERCEIVED STRESS SCALE



CHANGE IN RESTORATIVE SLEEP

PITTSBURGH SLEEP QUALITY INDEX (PSQI):

On the baseline visit, the mean PSQI score of both study groups were comparable with no statistically significant intergroup differences. At day 30 there were no statistically significant differences between the active arm or the placebo arm.

At day 60 there was a statistically significant difference in the change in the Ashwagandha arm ($p<0.0001$) compared to placebo for global PSQI scores. This corresponds to a clinically meaningful improvement in sleep for 53.57% of the participants in the Ashwagandha arm.[2] In the placebo arm 24.56% of participants saw a clinically meaningful change.

Statistically significant improvements compared to placebo were found in several of the PSQI components at day 60. Participants in the Ashwagandha arm reported statistically significant improvements in subjective sleep quality ($p=0.0002$), sleep latency ($p<0.0001$), and daytime dysfunction ($p=0.0231$) compared to placebo. No significant difference between the treatment arm and placebo were found for sleep duration, sleep efficiency, sleep disturbance, or sleep medication use.

RESTORATIVE SLEEP QUESTIONNAIRE (RSQ):

On the baseline visit, the mean RSQ score of both study groups were comparable with no statistically significant intergroup differences. At day 30 there were no statistically significant differences between the active arm or the placebo arm.

On Day 60 a reduction in mean restorative sleep score was observed. There was a statistical difference in the change between Ashwagandha (<0.0001) compared to placebo. There is not a standard for a minimal clinically meaningful change to restorative sleep, however, we can see that those in the active arm experienced a magnitude of change nearly double that of the placebo group.

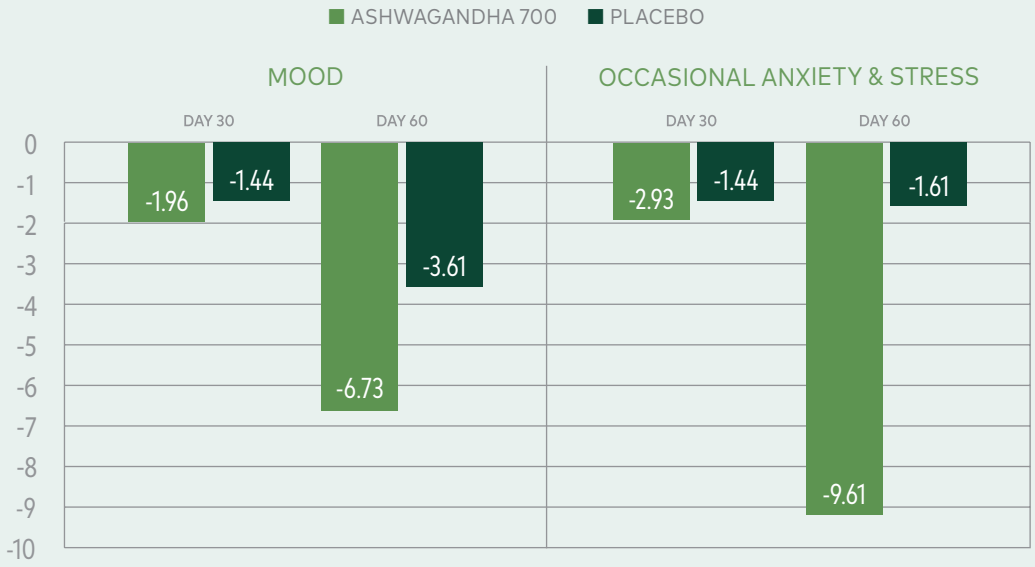
FATIGUE SEVERITY SCALE (FSS):

On the baseline visit, the mean FSS score both study groups were comparable with no statistically significant intergroup differences. On day 30 there were no statistically significant differences between the active arm and placebo arm.

On day 60 there was a statistically significant change in the Ashwagandha arm ($p=0.0087$) compared to placebo. This corresponds to a clinically meaningful change for 28.6% of the participants in the Ashwagandha arm.[3] In the placebo arm 8.7% of participants reported a clinically meaningful change. These results are consistent with the Fatigue Severity Scale – Visual Analog as statistically significant changes compared to placebo were also observed for the Ashwagandha arm ($p=0.0002$).

2 -An improvement in the global PSQI score of ≥ 3 points is considered a minimal clinically important difference, hence ≥ 3 points decrease at day 30 & 60 defined as minimally clinically meaningful.

3 - An improvement in the FSS score of </= -1.2 points considered a minimal clinically important difference, hence </= -1.2 points decrease at day 30 & 60 defined as minimally clinically meaningful.



CHANGE FOR MOOD, OCCASIONAL ANXIETY, & STRESS (DASS-21)

DEPRESSION ANXIETY STRESS SCALE-21 (DASS-21):

On the baseline visit, the mean DASS-21 score both study groups were comparable with no statistically significant intergroup differences. On day 30 there were no statistically significant differences between the active arm and placebo arm.

In the Ashwagandha arm statistically significant ($P<0.05$) changes were seen on day 60 compared to placebo for the anxiety and stress components of the DASS-21. This corresponds to relevant improvements for 41.1% of participants for the anxiety component and 64.2% of participants for the stress component in a healthy population.[4]

In the placebo arm 24.6% of participants experienced relevant improvement for the mood component, 21.2% for both the anxiety and stress components.

SALIVARY CORTISOL AND ADRENOCORTICOTROPIC HORMONE (ACTH)

There were no significant differences identified for any time point for either salivary cortisol or ATCH in plasma.

4 -There is no validated minimally clinically meaningful standard for DASS-21, although "responders" are defined as shifting into a lower category (extremely severe to severe, moderate to normal, etc).