

Table S1: Participant Demographic Data.

Variable	Group	N	Female	Male	Total	Mean (SEM)	Effect	p-Level	η^2
Age (yrs)	PL	29	21.3 ± 3.1	23.8 ± 10.7	22.4 ± 7.5	22.5 ± 1.4	Group	0.845	0.001
	ASH	30	24.5 ± 9.9	21.4 ± 1.7	23.0 ± 7.4	22.9 ± 1.4	Sex	0.889	0.000
	Total	59	22.9 ± 7.4	22.6 ± 7.5	22.7 ± 7.4	22.7 ± 1.0	G x S	0.145	0.038
Height (cm)	PL	29	161.7 ± 6.2	162.5 ± 43.9	162.0 ± 29.1	162.1 ± 4.0	Group	0.087	0.052
	ASH	30	165.6 ± 6.6	178.0 ± 6.9	171.4 ± 9.1	171.8 ± 3.9	Sex	0.238	0.025
	Total	59	163.6 ± 6.6	170.5 ± 31.2 *	166.8 ± 21.7	166.9 ± 2.8 *	G x S	0.300	0.020
Weight (kg)	PL	29	62.2 ± 11.7	83.3 ± 15.4	71.7 ± 17.0	72.8 ± 2.7 ◇	Group	0.166	0.035
	ASH	30	75.3 ± 18.3	81.0 ± 11.9	78.0 ± 15.7	78.1 ± 2.7	Sex	0.001	0.182
	Total	59	68.8 ± 16.6 *	82.1 ± 13.5	74.9 ± 16.5	75.5 ± 1.9 ◇	G x S	0.048	0.069
Body Mass Index (kg/m ²)	PL	29	23.9 ± 4.7	27.4 ± 4.9	25.5 ± 5.1	25.7 ± 0.9 ◆	Group	0.427	0.012
	ASH	30	27.8 ± 6.3	25.6 ± 3.3	26.8 ± 5.2	26.7 ± 0.9	Sex	0.626	0.004
	Total	59	25.9 ± 5.9 *	26.5 ± 4.2	26.2 ± 5.1	26.2 ± 0.7	G x S	0.030	0.082
Resting Heart Rate (bpm)	PL	29	68.8 ± 10.8	67.8 ± 8.0	68.4 ± 9.5	68.3 ± 2.1	Group	0.902	0.000
	ASH	30	72.7 ± 15.1	64.7 ± 10.1	69.0 ± 13.4	68.7 ± 2.1 ◆	Sex	0.143	0.039
	Total	59	70.8 ± 13.0	66.2 ± 9.2	68.7 ± 11.6	68.5 ± 1.5	G x S	0.249	0.024
Resting Systolic Blood Pressure (mmHg)	PL	29	108.3 ± 7.7	126.4 ± 11.8	116.4 ± 13.2	117.3 ± 1.7 ◇	Group	0.161	0.035
	ASH	30	116.3 ± 9.0	125.2 ± 8.2	120.5 ± 9.6	120.8 ± 1.7 ◇	Sex	0.000	0.364
	Total	59	112.3 ± 9.2 *	125.8 ± 9.9	118.5 ± 11.6	119.1 ± 1.2 ◇	G x S	0.062	0.062
Resting Diastolic Blood Pressure (mmHg)	PL	29	70.4 ± 5.5	71.4 ± 5.7	70.9 ± 5.5	70.9 ± 1.3	Group	0.010	0.115
	ASH	30	76.1 ± 9.4	75.3 ± 5.5	75.7 ± 7.7	75.7 ± 1.3	Sex	0.962	0.000
	Total	59	73.3 ± 8.1 *	73.4 ± 5.8	73.3 ± 7.1	73.3 ± 0.9 *	G x S	0.631	0.004

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G), sex (S), and group x sex (G x S) effects. Multivariate Wilk's Lambda showed significant group ($p = 0.028$, $\eta^2 = 0.264$), sex ($p < 0.001$, $\eta^2 = 0.638$), but not group x sex ($p = 0.068$, $\eta^2 = 0.226$) within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$); and between sexes, ◇ = $p < 0.05$ (◆ = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S2: Word Recall test results.

Variable	Group	N	Day 0		Day 30		Mean (SEM)	Effect	p-Level	η^2
			Pre	Post	Pre	Post				
Recall Attempts	PL	29	7.48 ± 1.50	7.07 ± 1.89	7.66 ± 1.61	7.17 ± 2.07	7.35 ± 0.29	Group	0.842	0.001
	ASH	30	7.80 ± 2.57	6.73 ± 2.07 †	7.87 ± 2.03	7.30 ± 2.14	7.43 ± 0.28	Time	0.010	0.066
	Time	59	7.64 ± 2.10	6.90 ± 1.97 †	7.76 ± 1.82	7.24 ± 2.09	7.39 ± 0.20	G x T	0.636	0.009
Correct Attempts	PL	29	7.14 ± 1.68	6.69 ± 1.89	7.38 ± 1.72	6.79 ± 2.21	7.00 ± 0.31	Group	0.834	0.001
	ASH	30	7.13 ± 2.76	6.13 ± 2.24 †	7.40 ± 2.22	6.97 ± 2.46	6.91 ± 0.31	Time	0.011	0.065
	Time	59	7.14 ± 2.28	6.41 ± 2.08 †	7.39 ± 1.97	6.88 ± 2.32	6.95 ± 0.22	G x T	0.616	0.010
Delayed Recall Attempts	PL	29	6.79 ± 2.11	5.62 ± 2.03 †	6.38 ± 1.70	5.66 ± 2.21 †	6.11 ± 0.31	Group	0.827	0.001
	ASH	30	6.47 ± 2.39	5.00 ± 1.93 †	6.63 ± 2.24	5.97 ± 2.08	6.02 ± 0.30	Time	0.000	0.155
	Time	59	6.63 ± 2.24	5.31 ± 1.98 †	6.51 ± 1.98	5.81 ± 2.13 †	6.06 ± 0.22	G x T	0.245	0.024
Delayed Correctly Recalled	PL	29	6.24 ± 1.98	5.24 ± 2.13 †	6.07 ± 1.73	5.21 ± 2.09 †	5.69 ± 0.33	Group	0.555	0.006
	ASH	30	5.70 ± 2.58	4.47 ± 2.01 †	6.07 ± 2.55	5.43 ± 2.36	5.42 ± 0.32	Time	0.000	0.129
	Time	59	5.97 ± 2.30	4.85 ± 2.09 †	6.07 ± 2.16	5.32 ± 2.22 †	5.55 ± 0.23	G x T	0.250	0.024

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed significant time ($p < 0.001$, $\eta^2 = 0.063$), but no group x time ($p = 0.736$, $\eta^2 = 0.017$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (§ = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S3: Word Recognition test results.

Variable	Group	N	Day 0		Day 30			Mean (SEM)	Effect	p-Level	η^2
			Pre	Post	Pre	Post					
Words Correct (%)	PL	29	91.03 ± 7.19	89.20 ± 7.75	91.72 ± 6.28	91.15 ± 8.37		90.78 ± 1.01	Group	0.353	0.015
	ASH	30	90.89 ± 8.75	87.44 ± 7.96 †	89.33 ± 6.91	90.11 ± 7.08		89.44 ± 1.00	Time	0.080	0.039
	Time	59	90.96 ± 7.95	88.31 ± 7.84 †	90.51 ± 6.66	90.62 ± 7.69		90.11 ± 0.71	G x T	0.758	0.007
Overall Reaction Time (milliseconds)	PL	29	1053 ± 258	957 ± 227	1048 ± 531	1024 ± 640		1021 ± 73	Group	0.803	0.001
	ASH	30	1169 ± 695	1083 ± 567	1004 ± 425 ‡	929 ± 275 †		1046 ± 72	Time	0.176	0.030
	Time	59	1112 ± 527	1021 ± 436	1026 ± 476	975 ± 488 ‡		1033 ± 51	G x T	0.183	0.029
Correct Reaction Time (milliseconds)	PL	29	998 ± 242	915 ± 228	1012 ± 511	998 ± 643		981 ± 73	Group	0.757	0.002
	ASH	30	1115 ± 705	1055 ± 569	973 ± 431	908 ± 264 ‡		1013 ± 72	Time	0.350	0.018
	Time	59	1057 ± 530	986 ± 438	992 ± 469	952 ± 486		997 ± 51	G x T	0.168	0.031
YES Words Correct (%)	PL	29	87.59 ± 9.38	82.07 ± 15.13 †	88.51 ± 10.97	86.90 ± 13.74		86.26 ± 1.66	Group	0.556	0.006
	ASH	30	88.44 ± 11.99	81.56 ± 12.46 †	85.11 ± 10.46	84.44 ± 11.26		84.89 ± 1.63	Time	0.003	0.079
	Time	59	88.02 ± 10.71	81.81 ± 13.72 †	86.78 ± 10.76	85.65 ± 12.49		85.58 ± 1.16	G x T	0.597	0.011
NO Words Correct (%)	PL	29	94.48 ± 10.70	96.32 ± 5.22	94.94 ± 7.70	95.40 ± 6.20		95.29 ± 1.04	Group	0.382	0.013
	ASH	30	93.33 ± 11.21	93.33 ± 8.40	93.55 ± 8.84	95.78 ± 5.93		94.00 ± 1.02	Time	0.562	0.011
	Time	59	93.90 ± 10.88	94.80 ± 7.12	94.24 ± 8.26	95.59 ± 6.01		94.64 ± 0.73	G x T	0.611	0.010
YES Words Reaction Time (milliseconds)	PL	29	1002 ± 285	967 ± 301	1073 ± 668	1137 ± 1079		1045 ± 90	Group	0.856	0.001
	ASH	30	1144 ± 692	1164 ± 783	999 ± 420	963 ± 320		1068 ± 88	Time	0.927	0.001
	Time	59	1074 ± 533	1067 ± 600	1036 ± 552	1049 ± 788		1056 ± 63	G x T	0.125	0.036
NO Words Reaction Time (milliseconds)	PL	29	1105 ± 436	955 ± 191	1023 ± 436	910 ± 236 ‡		998 ± 64	Group	0.766	0.002
	ASH	30	1194 ± 762	1002 ± 418 †	1010 ± 468 ‡	894 ± 258 †		1025 ± 63	Time	0.003	0.104
	Time	59	1150 ± 620	979 ± 325 †	1017 ± 449 ‡	902 ± 246 †		1012 ± 45	G x T	0.655	0.007

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed significant time ($p = 0.008$, $\eta^2 = 0.076$), but no group x time ($p = 0.725$, $\eta^2 = 0.033$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S4: Choice Reaction Time (CRT) test results.

Variable	Group	N	Day 0			Day 30			Mean (SEM)	Effect	p-Level	η^2
			Pre	Post		Pre	Post					
Targets Correct (%)	PL	29	98.83 \pm 1.47	97.72 \pm 1.75	[†]	98.76 \pm 1.64	98.62 \pm 1.78		98.48 \pm 0.24	Group	0.921	0.000
	ASH	30	98.47 \pm 1.87	98.40 \pm 1.61		98.33 \pm 2.17	98.60 \pm 1.50		98.45 \pm 0.23	Time	0.078	0.039
	Time	59	98.64 \pm 1.68	98.07 \pm 1.70	[†]	98.54 \pm 1.92	98.61 \pm 1.63		98.47 \pm 0.17	G x T	0.118	0.034
Overall Reaction Time (milliseconds)	PL	29	496.4 \pm 106.1	485.6 \pm 73.9		517.3 \pm 219.1	491.1 \pm 106.0		497.6 \pm 17.5	Group	0.864	0.001
	ASH	30	494.0 \pm 71.8	474.7 \pm 56.9		502.7 \pm 81.4	501.9 \pm 106.0		493.4 \pm 17.2	Time	0.176	0.030
	Time	59	495.2 \pm 89.5	480.1 \pm 65.5	[‡]	509.9 \pm 162.9	496.6 \pm 105.2		495.5 \pm 12.3	G x T	0.695	0.007
Correct Reaction Time (milliseconds)	PL	29	497.7 \pm 106.7	487.9 \pm 74.5		518.1 \pm 218.8	491.8 \pm 105.4		498.9 \pm 17.5	Group	0.863	0.001
	ASH	30	495.1 \pm 71.4	475.6 \pm 57.2		504.5 \pm 81.7	503.2 \pm 105.9		494.6 \pm 17.2	Time	0.183	0.029
	Time	59	496.3 \pm 89.7	481.6 \pm 66.0	[‡]	511.2 \pm 162.8	497.6 \pm 104.9		496.7 \pm 12.3	G x T	0.682	0.007

Data are expressed as means \pm standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed no significant time ($p = 0.247$, $\eta^2 = 0.022$), or group x time ($p = 0.063$, $\eta^2 = 0.031$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, [†] = $p < 0.05$ ([‡] = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S5: Picture Recognition test results.

			Day 0			Day 30			Mean				
Variable	Group	N	Pre	Post		Pre	Post		(SEM)	Effect	p-Level	η^2	
Pictures Correct (%)	PL	29	98.74 ± 2.26	97.36 ± 3.92	‡	97.70 ± 2.69	‡	95.29 ± 7.21	†	97.27 ± 0.42	Group	0.184	0.031
	ASH	30	98.56 ± 2.09	97.89 ± 3.44		98.67 ± 2.25		97.11 ± 3.79		98.06 ± 0.41	Time	0.006	0.086
	Time	59	98.64 ± 2.15	97.63 ± 3.66	‡	98.19 ± 2.50		96.21 ± 5.76	†	97.66 ± 0.29	G x T	0.436	0.014
Overall Reaction Time (milliseconds)	PL	29	814 ± 88	833 ± 120		960 ± 891		944 ± 993		888 ± 66	Group	0.368	0.014
	ASH	30	829 ± 135	790 ± 144	†	801 ± 127		795 ± 111		804 ± 65	Time	0.493	0.009
	Time	59	822 ± 113	811 ± 133		879 ± 631		868 ± 698		846 ± 46	G x T	0.396	0.013
Correct Reaction Time (milliseconds)	PL	29	804 ± 76	822 ± 116		938 ± 924		936 ± 995		875 ± 67	Group	0.416	0.012
	ASH	30	826 ± 134	778 ± 105	†	800 ± 129		791 ± 108		799 ± 65	Time	0.497	0.008
	Time	59	815 ± 109	800 ± 112		868 ± 652		862 ± 699		837 ± 47	G x T	0.428	0.011
Yes Targets Correct (%)	PL	29	98.16 ± 3.94	96.09 ± 7.24		96.55 ± 5.53		93.56 ± 10.91	†	96.09 ± 0.74	Group	0.196	0.029
	ASH	30	98.00 ± 3.97	97.56 ± 5.10		97.78 ± 4.41		96.44 ± 6.25		97.44 ± 0.73	Time	0.039	0.052
	Time	59	98.08 ± 3.92	96.84 ± 6.23		97.17 ± 4.98		95.03 ± 8.89	†	96.77 ± 0.52	G x T	0.508	0.013
No Targets Correct (%)	PL	29	99.31 ± 2.73	98.62 ± 3.28		98.85 ± 2.56		97.01 ± 6.57	†	98.45 ± 0.39	Group	0.769	0.002
	ASH	30	99.11 ± 2.31	98.22 ± 4.27		99.33 ± 2.04		97.78 ± 4.04		98.61 ± 0.39	Time	0.051	0.054
	Time	59	99.21 ± 2.50	98.42 ± 3.78	‡	99.10 ± 2.30		97.40 ± 5.40	†	98.53 ± 0.28	G x T	0.667	0.006
Yes Targets Reaction Time (milliseconds)	PL	29	735 ± 100	789 ± 156	‡	1038 ± 1407		1064 ± 1741		907 ± 104	Group	0.389	0.013
	ASH	30	829 ± 176	746 ± 111	†	779 ± 147		766 ± 121		780 ± 102	Time	0.356	0.015
	Time	59	783 ± 150	* 767 ± 136		906 ± 992		913 ± 1222		843 ± 73	G x T	0.280	0.021
NO Targets Reaction Time (milliseconds)	PL	29	892 ± 143	877 ± 151		881 ± 396		823 ± 268	‡	869 ± 33	Group	0.386	0.013
	ASH	30	830 ± 153	834 ± 214		824 ± 182		824 ± 160		828 ± 33	Time	0.519	0.012
	Time	59	860 ± 150	855 ± 185		852 ± 305		824 ± 218		848 ± 23	G x T	0.610	0.009

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed significant time ($p = 0.006$, $\eta^2 = 0.077$), but no group x time ($p = 0.222$, $\eta^2 = 0.049$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S6: Digit Vigilance test results.

Variable	Group	N	Day 0		Day 30			Mean (SEM)	Effect	p-Level	η^2
			Pre	Post	Pre	Post					
Targets Correct (%)	PL	29	90.19 ± 6.71	89.35 ± 5.52	89.27 ± 7.10	86.82 ± 11.22 ‡		88.91 ± 1.39	Group	0.106	0.045
	ASH	30	85.93 ± 9.84	87.19 ± 9.05	84.52 ± 10.71	85.19 ± 11.99		85.70 ± 1.37	Time	0.194	0.028
	Time	59	88.02 ± 8.65 *	88.25 ± 7.54	86.86 ± 9.35 *	85.99 ± 11.55		87.31 ± 0.98	G x T	0.443	0.015
Correct Reaction Time (ms)	PL	29	486.0 ± 34.2	486.7 ± 29.4	490.2 ± 36.2	495.7 ± 35.4 †		489.6 ± 5.8	Group	0.633	0.004
	ASH	30	485.9 ± 43.6	492.3 ± 29.3	496.4 ± 32.6 †	499.5 ± 30.8 †		493.5 ± 5.7	Time	0.002	0.087
	Time	59	486.0 ± 38.9	489.5 ± 29.2	493.3 ± 34.3 †	497.6 ± 32.9 †		491.6 ± 4.1	G x T	0.700	0.008
False Alarms	PL	29	2.62 ± 2.35	2.28 ± 1.89	2.62 ± 2.27	3.31 ± 2.87		2.71 ± 0.39	Group	0.139	0.038
	ASH	30	3.80 ± 3.20	3.07 ± 2.96 ‡	3.47 ± 2.66	3.80 ± 3.21		3.53 ± 0.39	Time	0.116	0.035
	Time	59	3.22 ± 2.85	2.68 ± 2.50 ‡	3.05 ± 2.49	3.56 ± 3.03		3.12 ± 0.28	G x T	0.805	0.005

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed significant time ($p = 0.006$, $\eta^2 = 0.044$), but not group x time ($p = 0.698$, $\eta^2 = 0.012$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S7: Corsi Block test results.

Variable	Group	N	Day 0		Day 30		Mean (SEM)	Effect	p-Level	η^2
			Pre	Post	Pre	Post				
Span Score	PL	29	6.54 ± 0.89	6.57 ± 0.67	6.53 ± 0.85	6.54 ± 0.91	6.55 ± 0.12	Group	0.998	0.000
	ASH	30	6.61 ± 0.71	6.64 ± 0.98	6.36 ± 0.67	6.57 ± 0.91	6.55 ± 0.12	Time	0.509	0.013
	Time	59	6.57 ± 0.79	6.61 ± 0.84	6.44 ± 0.76	6.56 ± 0.90	6.55 ± 0.08	G x T	0.673	0.009

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed no significant time ($p = 0.592$, $\eta^2 = 0.034$), or group x time ($p = 0.754$, $\eta^2 = 0.021$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S8: Stroop Color Word test results.

Variable	Group	N	Day 0		Day 30		Mean (SEM)	Effect	p-Level	η^2
			Pre	Post	Pre	Post				
Words Correct (%)	PL	29	99.76 ± 0.58	99.25 ± 1.05 ‡	99.20 ± 1.38	99.25 ± 1.05	99.37 ± 0.14	Group	0.372	0.014
	ASH	30	99.14 ± 1.56	99.22 ± 1.14	99.22 ± 1.89	99.17 ± 1.14	99.19 ± 0.14	Time	0.617	0.010
	Time	59	99.44 ± 1.21 *	99.24 ± 1.09	99.21 ± 1.65	99.21 ± 1.09	99.28 ± 0.10	G x T	0.413	0.016
Overall Reaction Time (ms)	PL	29	916.5 ± 144.0	860.3 ± 115.9 †	911.8 ± 174.3	876.6 ± 146.2 ‡	891.3 ± 21.1	Group	0.711	0.002
	ASH	30	918.3 ± 154.9	845.6 ± 74.1 †	906.1 ± 146.6	851.2 ± 108.1 †	880.3 ± 20.7	Time	0.000	0.124
	Time	59	917.4 ± 148.3	852.9 ± 96.4 †	908.9 ± 159.5	863.7 ± 127.8 †	885.8 ± 14.8	G x T	0.773	0.005
Correct Reaction Time (ms)	PL	29	913.2 ± 143.3	861.0 ± 115.8 †	913.3 ± 176.1	877.3 ± 145.8	891.2 ± 21.0	Group	0.692	0.003
	ASH	30	917.5 ± 152.5	846.1 ± 74.1 †	902.2 ± 144.2	852.0 ± 107.6 †	879.5 ± 20.7	Time	0.000	0.117
	Time	59	915.4 ± 146.8	853.4 ± 96.3 †	907.7 ± 159.4	864.5 ± 127.3 †	885.3 ± 14.7	G x T	0.751	0.005
Congruent Words Correct (%)	PL	29	99.89 ± 0.62	98.97 ± 1.80 †	99.20 ± 1.70 ‡	98.74 ± 2.07 †	99.20 ± 0.16	Group	0.258	0.022
	ASH	30	99.44 ± 1.54	99.33 ± 1.35	99.67 ± 1.02	99.33 ± 1.35	99.45 ± 0.15	Time	0.087	0.039
	Time	59	99.66 ± 1.19	99.15 ± 1.59 †	99.44 ± 1.40	99.04 ± 1.76 †	99.32 ± 0.11	G x T	0.200	0.027
Incongruent Words Correct (%)	PL	29	99.64 ± 1.03	99.54 ± 1.17	99.20 ± 1.92	99.77 ± 0.86	99.54 ± 0.20	Group	0.033	0.078
	ASH	30	98.85 ± 2.19	99.11 ± 1.74	98.78 ± 3.21	99.00 ± 1.99	98.94 ± 0.19	Time	0.633	0.009
	Time	59	99.24 ± 1.75 *	99.32 ± 1.49	98.98 ± 2.64	99.38 ± 1.57 *	99.24 ± 0.14 *	G x T	0.882	0.003
Congruent Words Overall Reaction Time (ms)	PL	29	893.5 ± 131.6	853.9 ± 120.4 †	867.9 ± 122.3	853.6 ± 137.1 †	867.2 ± 18.6	Group	0.428	0.011
	ASH	30	872.1 ± 94.9	820.3 ± 69.5 †	864.7 ± 128.0	828.3 ± 99.3 †	846.4 ± 18.3	Time	0.000	0.106
	Time	59	882.6 ± 113.9	836.8 ± 98.5 †	866.3 ± 124.1	840.7 ± 119.0 †	856.8 ± 13.1	G x T	0.605	0.010
Incongruent Words Overall Reaction Time (ms)	PL	29	938.2 ± 165.7	866.8 ± 119.4 †	955.7 ± 258.7	899.6 ± 161.8	915.1 ± 24.7	Group	0.981	0.000
	ASH	30	964.5 ± 236.7	871.0 ± 90.2 †	947.4 ± 180.1	874.1 ± 124.3 †	914.3 ± 24.3	Time	0.003	0.099
	Time	59	951.6 ± 203.6	868.9 ± 104.7 †	951.5 ± 220.3	886.6 ± 143.3 †	914.7 ± 17.3	G x T	0.660	0.007
Congruent Words Correct Reaction Time (ms)	PL	29	893.6 ± 131.6	855.1 ± 120.1 †	869.1 ± 123.6	855.1 ± 136.7 †	868.2 ± 18.7	Group	0.419	0.011
	ASH	30	872.4 ± 94.4	820.9 ± 69.9 †	865.3 ± 127.7	829.1 ± 98.8 †	846.9 ± 18.3	Time	0.000	0.104
	Time	59	882.8 ± 113.7	837.7 ± 98.5 †	867.2 ± 124.6	841.9 ± 118.6 †	857.6 ± 13.1	G x T	0.597	0.010
Incongruent Words Correct Reaction Time (ms)	PL	29	930.3 ± 164.0	866.8 ± 119.6	958.2 ± 264.9	899.4 ± 161.7	913.7 ± 28.4	Group	0.684	0.003
	ASH	30	1033.7 ± 529.3	871.5 ± 90.1 †	939.6 ± 173.4	875.1 ± 124.1 †	930.0 ± 27.9	Time	0.055	0.056
	Time	59	982.8 ± 394.7	869.2 ± 104.7 †	948.7 ± 221.3	887.1 ± 143.1 ‡	921.8 ± 19.9	G x T	0.323	0.019

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed significant time ($p = 0.040$, $\eta^2 = 0.079$), but no group x time ($p = 0.514$, $\eta^2 = 0.051$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S9: Profile of Mood States results.

Variable	Group	N	Day 0			Day 30			Mean (SEM)	Effect	p-Value	η^2
			Pre	Post		Pre	Post					
Tension	PL	29	8.93 ± 5.48	6.79 ± 6.18	†	7.79 ± 5.83	6.31 ± 5.53	†	7.46 ± 0.76	Group	0.804	0.001
	ASH	30	9.30 ± 3.72	7.33 ± 3.53	†	7.00 ± 4.19	5.13 ± 3.24	†	7.19 ± 0.75	Time	0.000	0.189
	Time	59	9.12 ± 4.63	7.07 ± 4.97	†	7.39 ± 5.04	5.71 ± 4.51	†	7.32 ± 0.53	G x T	0.297	0.021
Depression	PL	29	5.10 ± 6.80	3.97 ± 6.63	‡	3.62 ± 4.87	2.14 ± 3.81	†	3.71 ± 0.83	Group	0.574	0.006
	ASH	30	4.23 ± 5.09	2.77 ± 4.80	†	2.97 ± 4.24	2.23 ± 3.46	†	3.05 ± 0.81	Time	0.000	0.120
	Time	59	4.66 ± 5.96	3.36 ± 5.75	†	3.29 ± 4.53	2.19 ± 3.60	†	3.38 ± 0.58	G x T	0.584	0.010
Anger	PL	29	4.79 ± 5.60	3.07 ± 5.72	†	3.31 ± 4.96	2.00 ± 3.82	†	3.29 ± 0.69	Group	0.391	0.013
	ASH	30	3.30 ± 3.19	2.70 ± 3.40		2.50 ± 4.34	1.30 ± 2.49	†	2.45 ± 0.68	Time	0.000	0.139
	Time	59	4.03 ± 4.56	2.88 ± 4.65	†	2.90 ± 4.63	1.64 ± 3.20	†	2.87 ± 0.49	G x T	0.617	0.009
Fatigue	PL	29	6.83 ± 4.50	5.59 ± 4.96	†	6.21 ± 4.69	4.83 ± 5.11	†	5.86 ± 0.83	Group	0.816	0.001
	ASH	30	7.87 ± 5.39	6.67 ± 4.80	†	5.33 ± 4.59	4.67 ± 4.54	†	6.13 ± 0.81	Time	0.000	0.200
	Time	59	7.36 ± 4.96	6.14 ± 4.87	†	5.76 ± 4.62	4.75 ± 4.79	†	6.00 ± 0.58	G x T	0.058	0.047
Confusion	PL	29	6.17 ± 2.71	6.03 ± 3.86		4.76 ± 2.21	4.66 ± 2.41	†	5.41 ± 0.49	Group	0.930	0.000
	ASH	30	6.50 ± 3.48	5.60 ± 3.76	‡	5.17 ± 3.44	4.60 ± 2.79	†	5.47 ± 0.49	Time	0.000	0.145
	Time	59	6.34 ± 3.11	5.81 ± 3.78		4.97 ± 2.88	4.63 ± 2.59	†	5.44 ± 0.35	G x T	0.592	0.010
Vigor	PL	29	15.34 ± 6.39	14.10 ± 6.48	†	14.55 ± 6.16	13.48 ± 7.53	‡	14.37 ± 1.04	Group	0.903	0.000
	ASH	30	15.70 ± 5.32	13.67 ± 5.61	†	14.40 ± 5.41	13.00 ± 6.28	†	14.19 ± 1.02	Time	0.004	0.098
	Time	59	15.53 ± 5.82	13.88 ± 6.01	†	14.47 ± 5.74	13.24 ± 6.86	†	14.28 ± 0.73	G x T	0.767	0.004
Total Mood Disturbance Score	PL	29	16.48 ± 25.13	11.34 ± 27.71	†	11.14 ± 21.27	6.45 ± 19.71	†	11.35 ± 3.52	Group	0.800	0.001
	ASH	30	15.50 ± 17.52	11.40 ± 16.07	†	8.57 ± 18.35	4.93 ± 15.39	†	10.10 ± 3.46	Time	0.000	0.188
	Time	59	15.98 ± 21.42	11.37 ± 22.35	†	9.83 ± 19.71	5.68 ± 17.51	†	10.73 ± 2.47	G x T	0.798	0.004

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed significant time ($p < 0.001$, $\eta^2 = 0.148$), but no group x time ($p = 0.148$, $\eta^2 = 0.047$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S10: Cell Blood Count data.

Variable	Group	N	Day 0	Day 30	Mean (SEM)	Effect	p-Level	η^2
White Blood Cells (K/ μ L)	PL	29	5.89 \pm 1.70	5.58 \pm 1.47	5.73 \pm 0.25	Group	0.134	0.039
	ASH	30	6.28 \pm 1.32	6.27 \pm 1.56	6.28 \pm 0.25	Time	0.346	0.016
	Time	59	6.09 \pm 1.52	5.93 \pm 1.54 *	6.00 \pm 0.18	G x T	0.398	0.013
Red Blood Cells (M/ μ L)	PL	29	4.70 \pm 0.83	4.70 \pm 0.43	4.70 \pm 0.10	Group	0.169	0.033
	ASH	30	4.88 \pm 0.53	4.92 \pm 0.50	4.90 \pm 0.10	Time	0.696	0.003
	Time	59	4.79 \pm 0.69	4.81 \pm 0.48 *	4.80 \pm 0.07	G x T	0.773	0.001
Hemoglobin (g/dL)	PL	29	14.14 \pm 1.47	13.86 \pm 1.71	14.00 \pm 0.33	Group	0.901	0.000
	ASH	30	14.21 \pm 1.64	13.90 \pm 2.93	14.06 \pm 0.33	Time	0.239	0.024
	Time	59	14.18 \pm 1.54	13.88 \pm 2.39	14.03 \pm 0.23	G x T	0.944	0.000
Hematocrit (%)	PL	29	42.25 \pm 3.94	40.97 \pm 3.91 †	41.61 \pm 0.76	Group	0.412	0.012
	ASH	30	42.34 \pm 4.57	42.64 \pm 4.55	42.49 \pm 0.75	Time	0.112	0.044
	Time	59	42.29 \pm 4.24	41.82 \pm 4.30	42.05 \pm 0.53	G x T	0.011	0.108
Mean Corpuscular Volume (fL)	PL	29	87.88 \pm 4.91	87.22 \pm 5.29	87.55 \pm 1.27	Group	0.341	0.016
	ASH	30	87.04 \pm 5.96	84.65 \pm 13.13	85.84 \pm 1.25	Time	0.185	0.031
	Time	59	87.45 \pm 5.44	85.91 \pm 10.07	86.70 \pm 0.89	G x T	0.452	0.010
Mean Corpuscular Hemoglobin (pg)	PL	29	29.41 \pm 2.13	29.29 \pm 2.30	29.35 \pm 0.55	Group	0.518	0.007
	ASH	30	28.36 \pm 5.46	29.33 \pm 2.72	28.85 \pm 0.54	Time	0.364	0.014
	Time	59	28.88 \pm 4.17	29.31 \pm 2.50	29.10 \pm 0.39	G x T	0.241	0.024
Mean Corpuscular Hemoglobin Concentration (g/dL)	PL	29	33.44 \pm 0.95	33.54 \pm 1.08	33.49 \pm 0.16	Group	0.728	0.002
	ASH	30	33.55 \pm 0.83	33.58 \pm 1.07	33.57 \pm 0.15	Time	0.603	0.005
	Time	59	33.49 \pm 0.89	33.56 \pm 1.07	33.53 \pm 0.11	G x T	0.782	0.001
Red Blood Cell Distribution Width (%)	PL	29	12.48 \pm 0.75	12.41 \pm 0.84	12.44 \pm 0.16	Group	0.333	0.016
	ASH	30	12.65 \pm 0.98	12.68 \pm 0.96	12.67 \pm 0.16	Time	0.650	0.004
	Time	59	12.57 \pm 0.88	12.55 \pm 0.91	12.55 \pm 0.11	G x T	0.337	0.016
Neutrophils (%)	PL	29	54.60 \pm 8.11	53.60 \pm 8.99	54.10 \pm 1.40	Group	0.105	0.045
	ASH	30	56.94 \pm 8.23	57.73 \pm 8.89	57.33 \pm 1.38	Time	0.921	0.000
	Time	59	55.79 \pm 8.19	55.70 \pm 9.10 *	55.72 \pm 0.98	G x T	0.399	0.012
Lymphocytes (%)	PL	29	33.94 \pm 7.55	34.79 \pm 8.11	34.36 \pm 1.30	Group	0.052	0.065
	ASH	30	31.66 \pm 7.42	29.81 \pm 9.02	30.74 \pm 1.28	Time	0.629	0.004
	Time	59	32.78 \pm 7.51	32.26 \pm 8.87 *	32.55 \pm 0.91 *	G x T	0.193	0.030
Monocytes (%)	PL	29	7.57 \pm 1.55	7.74 \pm 1.69	7.66 \pm 0.30	Group	0.605	0.005
	ASH	30	7.70 \pm 2.02	8.06 \pm 1.83	7.88 \pm 0.30	Time	0.176	0.032
	Time	59	7.64 \pm 1.79	7.91 \pm 1.75	7.77 \pm 0.21	G x T	0.624	0.004
Eosinophils (%)	PL	29	2.93 \pm 2.98	2.85 \pm 2.94	2.89 \pm 0.44	Group	0.695	0.003
	ASH	30	2.60 \pm 1.72	2.70 \pm 1.88	2.65 \pm 0.43	Time	0.935	0.000
	Time	59	2.76 \pm 2.40	2.77 \pm 2.43	2.77 \pm 0.31	G x T	0.588	0.005
Basophils (%)	PL	29	0.68 \pm 0.31	0.75 \pm 0.42	0.71 \pm 0.06	Group	0.365	0.014
	ASH	30	0.81 \pm 0.31	0.77 \pm 0.37	0.79 \pm 0.06	Time	0.735	0.002
	Time	59	0.74 \pm 0.32	0.76 \pm 0.39	0.75 \pm 0.04	G x T	0.203	0.028
Platelets (K/ μ L)	PL	29	261.5 \pm 48.2	264.9 \pm 59.1	263.2 \pm 11.1	Group	0.917	0.000
	ASH	30	252.7 \pm 67.8	270.4 \pm 76.7 †	261.5 \pm 10.9	Time	0.084	0.051
	Time	59	257.0 \pm 58.7	267.7 \pm 68.1 ‡	262.3 \pm 7.8	G x T	0.238	0.024

Data are expressed as means \pm standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed no significant time ($p = 0.214$, $\eta^2 = 0.302$), nor group x time ($p = 0.291$, $\eta^2 = 0.281$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ (‡ = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S11: Serum Metabolic Panel.

Variable	Group	N	Day 0	Day 30	Mean (SEM)	Effect	p-Level	η^2
Total Cholesterol (mg/dL)	PL	29	171.2 ± 24.4	173.8 ± 27.4	172.5 ± 4.2	Group	0.330	0.017
	ASH	30	162.9 ± 21.4	170.6 ± 23.4 *	166.7 ± 4.1	Time	0.024	0.086
	Time	59	167.0 ± 23.1	172.2 ± 25.3 †	169.6 ± 2.9	G x T	0.255	0.023
Triglycerides (mg/dL)	PL	29	85.6 ± 36.4	81.5 ± 32.4	83.6 ± 5.6	Group	0.834	0.001
	ASH	30	83.2 ± 31.4	80.7 ± 32.4	81.9 ± 5.5	Time	0.356	0.015
	Time	59	84.4 ± 33.7	81.1 ± 32.1	82.7 ± 3.9	G x T	0.821	0.001
HDL Cholesterol (mg/dL)	PL	29	57.3 ± 12.3	57.4 ± 15.4	57.3 ± 2.3	Group	0.193	0.030
	ASH	30	50.6 ± 10.2	55.5 ± 13.8 *	53.1 ± 2.3	Time	0.015	0.099
	Time	59	53.9 ± 11.6	56.5 ± 14.5 †*	55.2 ± 1.6	G x T	0.023	0.088
LDL Cholesterol (mg/dL)	PL	29	96.4 ± 18.4	99.3 ± 24.5	97.8 ± 3.6	Group	0.763	0.002
	ASH	30	94.7 ± 19.0	97.9 ± 19.5	96.3 ± 3.5	Time	0.105	0.045
	Time	59	95.5 ± 18.6	98.6 ± 21.9	97.1 ± 2.5	G x T	0.951	0.000
Non-HDL Cholesterol (mg/dL)	PL	29	114.0 ± 21.7	116.4 ± 26.9	115.2 ± 4.1	Group	0.791	0.001
	ASH	30	112.3 ± 21.8	115.1 ± 22.8	113.7 ± 4.0	Time	0.192	0.030
	Time	59	113.1 ± 21.6	115.7 ± 24.7	114.4 ± 2.9	G x T	0.927	0.000
VLDL Cholesterol (mg/dL)	PL	29	17.60 ± 5.03	17.14 ± 4.30	17.37 ± 0.79	Group	0.994	0.000
	ASH	30	17.52 ± 4.30	17.20 ± 4.55	17.36 ± 0.77	Time	0.369	0.014
	Time	59	17.56 ± 4.63	17.17 ± 4.39	17.36 ± 0.55	G x T	0.872	0.000
LDL-HDL Ratio	PL	29	2.63 ± 3.82	1.88 ± 0.75	2.25 ± 0.28	Group	0.413	0.012
	ASH	30	1.97 ± 0.58	1.89 ± 0.69	1.93 ± 0.27	Time	0.226	0.026
	Time	59	2.29 ± 2.71	1.88 ± 0.72	2.09 ± 0.20	G x T	0.332	0.017
Total Cholesterol/HDL Ratio	PL	29	3.12 ± 0.64	3.21 ± 0.86	3.16 ± 0.25	Group	0.106	0.045
	ASH	30	4.27 ± 3.53	3.22 ± 0.83 *	3.75 ± 0.25	Time	0.170	0.033
	Time	59	3.70 ± 2.60	3.22 ± 0.84 ‡	3.45 ± 0.18	G x T	0.107	0.045
Glucose (mg/dL)	PL	29	90.71 ± 5.86	92.52 ± 15.03	91.61 ± 1.42	Group	0.257	0.022
	ASH	30	94.37 ± 6.77	93.43 ± 7.56	93.90 ± 1.40	Time	0.766	0.002
	Time	59	92.57 ± 6.55	92.98 ± 11.75 *	92.76 ± 1.00	G x T	0.352	0.015
Blood Urea Nitrogen (mg/dL)	PL	29	13.39 ± 3.68	14.45 ± 3.62 ‡	13.92 ± 0.63	Group	0.584	0.005
	ASH	30	13.00 ± 3.70	13.87 ± 4.04	13.43 ± 0.62	Time	0.032	0.078
	Time	59	13.19 ± 3.66	14.15 ± 3.82 †	13.68 ± 0.44	G x T	0.824	0.001
Creatinine (mg/dL)	PL	29	0.93 ± 0.18	0.92 ± 0.20	0.92 ± 0.04	Group	0.766	0.002
	ASH	30	0.93 ± 0.19	0.95 ± 0.20	0.94 ± 0.03	Time	0.712	0.002
	Time	59	0.93 ± 0.19	0.93 ± 0.20	0.93 ± 0.02	G x T	0.091	0.049
Estimated Glomerular Filtration Rate (ml/min/1.73)	PL	29	102.7 ± 15.6	105.1 ± 17.7	103.9 ± 3.1	Group	0.536	0.007
	ASH	30	102.7 ± 17.3	99.7 ± 18.1 *	101.2 ± 3.0	Time	0.788	0.001
	Time	59	102.7 ± 16.3	102.4 ± 17.9	102.6 ± 2.2	G x T	0.025	0.085
BUN-Creatinine Ratio	PL	29	14.40 ± 4.32	16.14 ± 4.10 ‡	15.27 ± 0.62	Group	0.378	0.014
	ASH	30	14.27 ± 3.10	14.73 ± 3.60	14.50 ± 0.61	Time	0.026	0.084
	Time	59	14.33 ± 3.72	15.42 ± 3.89 †	14.88 ± 0.43	G x T	0.191	0.030
Sodium (meq/L)	PL	29	141.0 ± 2.6	141.2 ± 1.8	141.1 ± 0.3	Group	0.584	0.005
	ASH	30	140.6 ± 1.8	141.2 ± 2.1	140.9 ± 0.3	Time	0.273	0.021
	Time	59	140.8 ± 2.2	141.2 ± 1.9	141.0 ± 0.2	G x T	0.514	0.008
Potassium (meq/L)	PL	29	4.48 ± 0.61	4.44 ± 0.41	4.46 ± 0.07	Group	0.881	0.000
	ASH	30	4.35 ± 0.65	4.55 ± 0.36	4.45 ± 0.07	Time	0.371	0.014
	Time	59	4.41 ± 0.63	4.50 ± 0.38	4.46 ± 0.05	G x T	0.197	0.029
Chloride (meq/L)	PL	29	103.1 ± 2.1	103.0 ± 2.0	103.0 ± 0.3	Group	0.659	0.003
	ASH	30	103.3 ± 2.0	103.2 ± 2.2	103.2 ± 0.3	Time	0.826	0.001
	Time	59	103.2 ± 2.0	103.1 ± 2.1	103.1 ± 0.2	G x T	0.997	0.000
Carbon Dioxide (meq/L)	PL	29	25.36 ± 2.18	26.00 ± 2.00 ‡	25.68 ± 0.31	Group	0.708	0.002
	ASH	30	25.40 ± 1.94	25.63 ± 1.47	25.52 ± 0.30	Time	0.081	0.052
	Time	59	25.38 ± 2.05	25.81 ± 1.75 ‡	25.60 ± 0.22	G x T	0.412	0.012
Calcium (mg/dL)	PL	29	9.86 ± 0.39	9.88 ± 0.36	9.87 ± 0.05	Group	0.252	0.023
	ASH	30	9.88 ± 0.27	10.04 ± 0.37 *	9.96 ± 0.05	Time	0.082	0.052
	Time	59	9.87 ± 0.33	9.96 ± 0.37 ‡	9.91 ± 0.04	G x T	0.152	0.036
Total Proteins (g/dL)	PL	29	7.27 ± 0.40	7.21 ± 0.43	7.24 ± 0.06	Group	0.541	0.007
	ASH	30	7.21 ± 0.39	7.37 ± 0.31 *	7.29 ± 0.06	Time	0.254	0.023
	Time	59	7.24 ± 0.39	7.29 ± 0.38 †*	7.27 ± 0.04	G x T	0.019	0.093
Albumin (g/dL)	PL	29	4.76 ± 0.29	4.74 ± 0.29	4.75 ± 0.05	Group	0.376	0.014
	ASH	30	4.76 ± 0.30	4.86 ± 0.29 *	4.81 ± 0.05	Time	0.205	0.028
	Time	59	4.76 ± 0.29	4.80 ± 0.29	4.78 ± 0.04	G x T	0.045	0.068
Globulin (g/dL)	PL	29	2.50 ± 0.32	2.47 ± 0.32	2.48 ± 0.25	Group	0.353	0.015
	ASH	30	3.12 ± 3.71	2.51 ± 0.28	2.82 ± 0.25	Time	0.365	0.014
	Time	59	2.81 ± 2.65	2.49 ± 0.30	2.65 ± 0.18	G x T	0.403	0.012
Albumin-Globulin Ratio	PL	29	1.95 ± 0.32	1.95 ± 0.29	1.95 ± 0.05	Group	0.752	0.002
	ASH	30	1.98 ± 0.35	1.96 ± 0.29	1.97 ± 0.05	Time	0.699	0.003
	Time	59	1.97 ± 0.33	1.96 ± 0.29	1.96 ± 0.04	G x T	0.740	0.002
Bilirubin (mg/dL)	PL	29	0.62 ± 0.42	0.65 ± 0.39	0.63 ± 0.06	Group	0.078	0.053
	ASH	30	0.52 ± 0.19	0.47 ± 0.18	0.50 ± 0.05	Time	0.848	0.001
	Time	59	0.57 ± 0.32	0.56 ± 0.32 *	0.56 ± 0.04 *	G x T	0.115	0.043
Alkaline Phosphatase (U/L)	PL	29	72.90 ± 26.76	73.59 ± 26.52	73.24 ± 4.50	Group	0.501	0.008
	ASH	30	74.33 ± 22.09	80.70 ± 22.82 *	77.52 ± 4.43	Time	0.002	0.155
	Time	59	73.63 ± 24.30	77.20 ± 24.76 †	75.38 ± 3.16	G x T	0.012	0.106
Aspartate Aminotransferase (U/L)	PL	29	21.24 ± 4.73	21.69 ± 6.71	21.46 ± 1.45	Group	0.377	0.014
	ASH	30	23.33 ± 12.18	23.20 ± 9.02	23.27 ± 1.42	Time	0.872	0.000
	Time	59	22.30 ± 9.28	22.46 ± 7.94	22.37 ± 1.01	G x T	0.768	0.002
Alanine Aminotransferase (U/L)	PL	29	16.96 ± 6.56	20.38 ± 9.58	18.67 ± 3.15	Group	0.270	0.021
	ASH	30	25.23 ± 37.23	21.60 ± 10.94	23.42 ± 3.10	Time	0.971	0.000
	Time	59	21.17 ± 27.04	21.00 ± 10.23	21.04 ± 2.21	G x T	0.236	0.024

Data are expressed as means ± standard deviations for the placebo (PL) and Ashwagandha (ASH) groups. Data were analyzed using a multivariate and univariate General Linear Model with repeated measures. P-levels, with partial ETA squared (η^2), are listed for between-subject group (G) and univariate within-subject (Greenhouse-Geisser) time (T), and group x time (G x T) effects. Multivariate Wilk's Lambda showed significant time ($p = 0.040$, $\eta^2 = 0.575$), but not group x time ($p = 0.102$, $\eta^2 = 0.530$), within-subject effects. Pairwise comparisons, with LSD confidence interval adjustment, for simple main effects are indicated by the following superscripts: difference from baseline value, † = $p < 0.05$ († = $p > 0.05$ to $p < 0.10$); and between groups * = $p < 0.05$ (* = $p > 0.05$ to $p < 0.10$). η^2 effect size values of 0.01 - 0.05 = small, 0.06 - 0.13 = medium, and > 0.14 = large.

Table S12: Frequency and severity of side effects.

Frequency									Severity										
Symptom	Day	Group	None	1-2x's per week	5-6x's per week	7-8x's per week	3-4x's per week	>9x's per week	χ ²	Symptom	Day	Group	None	Minimal	Slight	Moderate	Severe	Very Severe	χ ²
Dizziness	Day 1 Pre	PLA	24	4	1	0	0	0	0.553	Dizziness	Day 1 Pre	PLA	24	2	2	1	0	0	0.941
		ASH	24	5	0	0	0	1				ASH	26	2	1	1	0	0	
		Total	48	9	1	0	0	1				Total	50	4	3	2	0	0	
	Day 1 Post	PLA	25	3	1	0	0	0	0.475		Day 1 Post	PLA	25	2	2	0	0	0	0.361
		ASH	24	5	0	0	0	1				ASH	26	3	0	1	0	0	
		Total	49	8	1	0	0	1				Total	51	5	2	1	0	0	
	Day 30 Pre	PLA	24	4	1	0	0	0	0.351		Day 30 Pre	PLA	24	2	3	0	0	0	0.288
		ASH	28	1	1	0	0	0				ASH	28	0	2	0	0	0	
		Total	52	5	2	0	0	0				Total	52	2	5	0	0	0	
	Day 30 Post	PLA	25	4	0	0	0	0	0.422		Day 30 Post	PLA	25	2	2	0	0	0	0.821
		ASH	27	2	1	0	0	0				ASH	27	2	1	0	0	0	
		Total	52	6	1	0	0	0				Total	52	4	3	0	0	0	
Headache	Day 1 Pre	PLA	10	16	3	0	0	0	0.190	Headache	Day 1 Pre	PLA	10	13	3	3	0	0	0.057
		ASH	17	9	3	1	0	0				ASH	18	4	5	3	0	0	
		Total	27	25	6	1	0	0				Total	28	17	8	6	0	0	
	Day 1 Post	PLA	18	8	3	0	0	0	0.531		Day 1 Post	PLA	19	7	2	1	0	0	0.609
		ASH	19	5	5	1	0	0				ASH	20	4	4	2	0	0	
		Total	37	13	8	1	0	0				Total	39	11	6	3	0	0	
	Day 30 Pre	PLA	15	13	1	0	0	0	0.365		Day 30 Pre	PLA	15	11	2	1	0	0	0.230
		ASH	15	10	4	0	1	0				ASH	13	7	8	1	1	0	
		Total	30	23	5	0	1	0				Total	28	18	10	2	1	0	
	Day 30 Post	PLA	20	8	1	0	0	0	0.518		Day 30 Post	PLA	20	5	3	1	0	0	0.730
		ASH	20	6	3	0	1	0				ASH	18	4	5	2	1	0	
		Total	40	14	4	0	1	0				Total	38	9	8	3	1	0	
Tachycardia	Day 1 Pre	PLA	19	9	1	0	0	0	0.140	Tachycardia	Day 1 Pre	PLA	19	7	2	1	0	0	0.757
		ASH	22	4	4	0	0	0				ASH	23	4	2	1	0	0	
		Total	41	13	5	0	0	0				Total	42	11	4	2	0	0	
	Day 1 Post	PLA	25	3	1	0	0	0	0.241		Day 1 Post	PLA	24	2	2	1	0	0	0.817
		ASH	22	3	5	0	0	0				ASH	22	3	4	1	0	0	
		Total	47	6	6	0	0	0				Total	46	5	6	2	0	0	
	Day 30 Pre	PLA	23	5	0	1	0	0	0.571		Day 30 Pre	PLA	23	5	1	0	0	0	0.799
		ASH	24	5	1	0	0	0				ASH	24	4	2	0	0	0	
		Total	47	10	1	1	0	0				Total	47	9	3	0	0	0	
	Day 30 Post	PLA	25	3	0	1	0	0	0.589		Day 30 Post	PLA	24	4	1	0	0	0	0.902
		ASH	27	3	0	0	0	0				ASH	26	3	1	0	0	0	
		Total	52	6	0	1	0	0				Total	50	7	2	0	0	0	
Heart Palpitations	Day 1 Pre	PLA	29	0	0	0	0	0	-	Heart Palpitations	Day 1 Pre	PLA	29	0	0	0	0	0	-
		ASH	30	0	0	0	0	0				ASH	30	0	0	0	0	0	
		Total	59	0	0	0	0	0				Total	59	0	0	0	0	0	
	Day 1 Post	PLA	29	0	0	0	0	0	-		Day 1 Post	PLA	29	0	0	0	0	0	-
		ASH	30	0	0	0	0	0				ASH	30	0	0	0	0	0	
		Total	59	0	0	0	0	0				Total	59	0	0	0	0	0	
	Day 30 Pre	PLA	29	0	0	0	0	0	-		Day 30 Pre	PLA	29	0	0	0	0	0	0.321
		ASH	30	0	0	0	0	0				ASH	29	1	0	0	0	0	
		Total	59	0	0	0	0	0				Total	58	1	0	0	0	0	
	Day 30 Post	PLA	29	0	0	0	0	0	-		Day 30 Post	PLA	29	0	0	0	0	0	0.321
		ASH	30	0	0	0	0	0				ASH	29	1	0	0	0	0	
		Total	59	0	0	0	0	0				Total	58	1	0	0	0	0	
Dyspnea	Day 1 Pre	PLA	24	5	0	0	0	0	0.417	Dyspnea	Day 1 Pre	PLA	25	3	1	0	0	0	0.564
		ASH	27	3	0	0	0	0				ASH	26	4	0	0	0	0	
		Total	51	8	0	0	0	0				Total	51	7	1	0	0	0	
	Day 1 Post	PLA	27	2	0	0	0	0	0.972		Day 1 Post	PLA	28	1	0	0	0	0	0.357
		ASH	28	2	0	0	0	0				ASH	26	3	0	1	0	0	
		Total	55	4	0	0	0	0				Total	54	4	0	1	0	0	
	Day 30 Pre	PLA	26	3	0	0	0	0	0.723		Day 30 Pre	PLA	26	3	0	0	0	0	0.965
		ASH	26	4	0	0	0	0				ASH	27	3	0	0	0	0	
		Total	52	7	0	0	0	0				Total	53	6	0	0	0	0	
	Day 30 Post	PLA	28	1	0	0	0	0	0.574		Day 30 Post	PLA	28	1	0	0	0	0	0.574
		ASH	28	2	0	0	0	0				ASH	28	2	0	0	0	0	
		Total	56	3	0	0	0	0				Total	56	3	0	0	0	0	
Nervousness	Day 1 Pre	PLA	11	12	3	3	0	0	0.491	Nervousness	Day 1 Pre	PLA	11	10	5	3	0	0	0.606
		ASH	10	10	6	2	2	0				ASH	13	6	8	3	0	0	
		Total	21	22	9	5	2	0				Total	24	16	13	6	0	0	
	Day 1 Post	PLA	20	5	2	2	0	0	0.359		Day 1 Post	PLA	21	2	4	2	0	0	0.188
		ASH	15	7	6	1	1	0				ASH	15	8	4	3	0	0	
		Total	35	12	8	3	1	0				Total	36	10	8	5	0	0	
	Day 30 Pre	PLA	16	7	5	0	1	0	0.379		Day 30 Pre	PLA	17	5	4	3	0	0	0.652
		ASH	17	6	4	3	0	0				ASH	19	2	5	4	0	0	
		Total	33	13	9	3	1	0				Total	36	7	9	7	0	0	
	Day 30 Post	PLA	21	5	2	0	1	0	0.436		Day 30 Post	PLA	22	2	4	1	0	0	0.598
		ASH	20	4	4	2	0	0				ASH	20	2	4	4	0	0	
		Total	41	9	6	2	1	0				Total	42	4	8	5	0	0	
Blurred Vision	Day 1 Pre	PLA	25	3	1	0	0	0	0.194	Blurred Vision	Day 1 Pre	PLA	25	3	0	1	0	0	0.320
		ASH	29	0	1	0	0	0				ASH	29	1	0	0	0	0	
		Total	54	3	2	0	0	0				Total	54	4	0	1	0	0	
	Day 1 Post	PLA	26	2	1	0	0	0	0.823		Day 1 Post	PLA	26	2	1	0	0	0	0.477
		ASH	28	1	1	0	0	0				ASH	29	1	0	0	0	0	
		Total	54	3	2	0	0	0				Total	55	3	1	0	0	0	
	Day 30 Pre	PLA	24	3	2	0	0	0	0.998		Day 30 Pre	PLA	25	3	0	1	0	0	0.547
		ASH	25	3	2	0	0	0				ASH	25	4	1	0	0	0	
		Total	49	6	4	0	0	0				Total	50	7	1	1	0	0	
	Day 30 Post	PLA	25	3	1	0	0	0	0.498		Day 30 Post	PLA	24	4	1	0	0	0	0.662
		ASH	27	1	2	0	0	0				ASH	27	2	1	0	0	0	
		Total	52	4	3	0	0	0				Total	51	6	2	0	0	0	
Other	Day 1 Pre	PLA	29	0	0	0	0	0	-	Other	Day 1 Pre	PLA	29	0	0	0	0	0	-
		ASH	30	0	0	0	0	0				ASH	30	0	0	0	0	0	
		Total	59	0	0	0	0	0				Total	59	0	0	0	0	0	
	Day 1 Post	PLA	28	0	1	0	0	0	0.305		Day 1 Post	PLA	28	0	1	0	0	0	0.305
		ASH	30	0	0	0	0	0				ASH	30	0	0	0	0	0	
		Total	58	0	1	0	0	0				Total	58	0	1	0	0	0	
	Day 30 Pre	PLA	29	0	0	0	0	0	-		Day 30 Pre	PLA	29	0	0	0	0	0	-
		ASH	30	0	0	0	0	0				ASH	30	0	0	0	0	0	
		Total	59	0	0	0	0	0				Total	59	0	0	0	0	0	
	Day 30 Post	PLA	29	0	0	0	0	0	-		Day 30 Post	PLA	29	0	0	0	0	0	-
		ASH	30	0	0	0	0	0				ASH	30	0	0	0	0	0	
		Total	59	0	0	0	0	0				Total	59	0	0	0	0	0	