Supplemental Table 1- Mood and fatigue characteristics pre- and post-intervention based on the intention-to-treat approach1

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Flaxseed (n=38) | | |  | Puffed wheat (n=34) | | |  |  |
|  | Before | After | ∆ | P value2 | Before | After | ∆ | P value2 | P value3 |
| Fatigue | 49.5 ± 2.1 | 46.5 ± 1.8 | -3.02 ± 1.82 | 0.099 | 53.5 ± 2.1 | 52.0 ± 2.1 | -1.54 ± 1.86 | 0.410 | 0.116 |
| General fatigue | 10.7 ± 0.5 | 10.0 ± 0.4 | -0.69 ± 0.44 | 0.119 | 10.9 ± 0.6 | 10.4 ± 0.6 | -0.54 ± 0.55 | 0.330 | 0.392 |
| Physical fatigue | 9.4 ± 0.6 | 8.5 ± 0.5 | -0.90 ± 0.69 | 0.192 | 10.1 ± 0.5 | 9.5 ± 0.5 | -0.63 ± 0.64 | 0.322 | 0.255 |
| Mental fatigue | 10.9 ± 0.7 | 9.3 ± 0.6 | -1.67 ± 0.62 | 0.007 | 11.4 ± 0.7 | 11.2 ± 0.7 | -0.14 ± 0.66 | 0.833 | 0.028 |
| Reduced activity | 10.5 ± 0.5 | 10.0 ± 0.5 | -0.50 ± 0.64 | 0.439 | 11.6 ± 0.6 | 11.4 ± 0.7 | -0.22 ± 0.68 | 0.742 | 0.199 |
| Reduced motivation | 8.3 ± 0.5 | 8.6 ± 0.6 | 0.33 ± 0.56 | 0.561 | 9.4 ± 0.6 | 9.5 ± 0.7 | 0.09 ± 0.63 | 0.882 | 0.631 |
| Mood | 14.5 ± 1.7 | 11.8 ± 1.7 | -2.72 ± 1.62 | 0.094 | 17.1 ± 1.9 | 13.8 ± 2.5 | -3.32 ± 1.89 | 0.095 | 0.636 |
| Depression | 18.0 ± 1.6 | 14.3 ± 2.2 | -3.66 ± 2.15 | 0.093 | 19.1 ± 2.1 | 15.9 ± 2.7 | -3.19 ± 2.38 | 0.192 | 0.411 |
| Anxiety | 14.7 ± 1.4 | 13.5 ± 2.1 | -1.25 ± 1.98 | 0.531 | 17.4 ± 2.0 | 15.4 ± 3.0 | -2.00 ± 2.34 | 0.400 | 0.616 |
| Stress | 12.6 ± 1.5 | 11.1 ± 1.9 | -1.42 ± 1.50 | 0.347 | 14.1 ± 1.9 | 11.7 ± 2.6 | -2.39 ± 1.89 | 0.219 | 0.584 |
| Appetite | 31.4 ± 0.5 | 29.4 ± 1.0 | -1.99 ± 1.00 | 0.055 | 30.9 ± 0.5 | 29.5 ± 1.5 | -1.40 ± 1.40 | 0.332 | 0.408 |

1 Data are expressed as means ± SEM. 2 Within-group comparisons were performed with paired t test. 3 Between-group assessments were performed with analysis of covariance with age, sex, sleep, total iron binding capacity (TIBC), and corresponding baseline values as confounders.

Supplemental Table 2- Anthropometric and biochemical variables pre- and post-intervention based on the intention-to-treat approach1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Flaxseed (n=38) | | |  | Puffed wheat (n=34) | | |  |  |
|  | Before | After | ∆ | P value2 | Before | After | ∆ | P value2 | P value3 |
| Height (cm) | 152.3 ± 2.3 | 152.5 ± 2.3 | 0.18 ± 0.60 | 0.767 | 151.0 ± 2.3 | 151.2 ± 2.5 | 0.23 ± 1.00 | 0.816 | 0.592 |
| Height Z score | 1.02 ± 0.15 | 1.05 ± 0.16 | 0.03 ± 0.09 | 0.734 | 0.77 ± 0.18 | 0.81 ± 0.21 | 0.04 ± 1.50 | 0.810 | 0.609 |
| Weight (kg) | 63.6 ± 3.1 | 62.1 ± 3.0 | -0.46 ± 1.17 | 0.694 | 63.6 ± 3.4 | 63.9 ± 3.4 | 0.29 ± 1.57 | 0.857 | 0.496 |
| Weight Z score | 2.08 ± 0.10 | 2.06 ± 0.11 | -0.03 ± 0.07 | 0.700 | 2.09 ± 0.12 | 2.11 ± 0.15 | 0.01 ± 0.09 | 0.869 | 0.537 |
| BMI (kg/m2) | 26.8 ± 0.7 | 26.5 ± 0.8 | -0.32 ± 0.56 | 0.572 | 27.2 ± 0.8 | 27.3 ± 1.0 | 0.04 ± 0.07 | 0.950 | 0.488 |
| BMI Z score | 1.93 ± 0.07 | 1.90 ± 0.10 | -0.04 ± 0.07 | 0.611 | 2.02 ± 0.08 | 2.03 ± 0.13 | 0.01 ± 0.10 | 0.970 | 0.495 |
| Waist circumference (cm) | 85.7 ± 2.0 | 84.5 ± 2.1 | -1.22 ± 1.33 | 0.367 | 86.3 ± 2.0 | 86.4 ± 2.5 | 0.13 ± 1.80 | 0.946 | 0.418 |
| Fasting glucose (mg/dl) | 89.9 ± 1.2 | 88.0 ± 1.2 | -1.97 ± 1.31 | 0.134 | 89.5 ± 1.0 | 89.7 ± 1.5 | 0.22 ± 1.74 | 0.900 | 0.382 |
| Triglycerides (mg/dl) | 110.5 ± 5.7 | 105.0 ± 7.6 | -5.54 ± 7.7 | 0.474 | 119.4 ± 9.4 | 115.5 ± 9.9 | -3.88 ± 10.27 | 0.708 | 0.474 |
| Total cholesterol (mg/dl) | 161.5 ± 5.8 | 163.5 ± 6.7 | 1.96 ± 4.33 | 0.654 | 148.9 ± 5.0 | 155.6 ± 6.1 | 6.69 ± 4.15 | 0.119 | 0.390 |
| LDL cholesterol | 94.2 ± 4.1 | 94.5 ± 4.7 | 0.26 ± 3.17 | 0.936 | 85.2 ± 3.9 | 86.7 ± 4.6 | 1.56 ± 3.12 | 0.619 | 0.603 |
| HDL cholesterol | 42.8 ± 0.9 | 42.7 ± 1.1 | -0.13 ± 1.18 | 0.916 | 40.3 ± 1.0 | 41.8 ± 1.1 | 1.51 ± 1.04 | 0.152 | 0.580 |
| Hemoglobin (g/dl) | 14.0 ± 0.2 | 13.9 ± 0.2 | -0.15 ± 0.10 | 0.143 | 14.3 ± 0.3 | 14.2 ± 0.3 | -0.08 ± 0.16 | 0.623 | 0.396 |
| Iron (μg/dl)) | 86.8 ± 6.6 | 80.7 ± 7.5 | -6.07 ± 8.73 | 0.488 | 100.9 ± 8.3 | 82.7 ± 12.6 | -18.2 ± 14.8 | 0.240 | 0.491 |
| TIBC (μg/dl) | 359.0 ± 7.7 | 376.6 ± 8.1 | 17.6 ± 10.1 | 0.087 | 360.7 ± 8.5 | 356.1 ± 11.9 | -4.66 ± 15.3 | 0.764 | 0.229 |
| Transferrin saturation (%) | 24.9 ± 1.9 | 22.1 ± 2.3 | -2.79 ± 2.72 | 0.307 | 27.9 ± 2.3 | 24.2 ± 4.3 | -3.73 ± 5.00 | 0.468 | 0.451 |

1 Data are expressed as means ± SEM. 2 Within-group values were compared with paired t test. 3 Between-group assessments were performed with analysis of covariance with age, sex, and corresponding baseline values as confounders. Abbreviations: BMI, body mass index; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TIBC, total iron binding capacity.