## Supplementary Online Content

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## eMethods: Supplementary Methods

### Study Intervention

This randomized crossover trial included four in-person clinic visits and weekly virtual group cooking classes for a total of eight sessions (**Supplemental Figure 1a**). Aside from provision of the extra virgin olive oil and weekly gift cards to support grocery purchases, a detailed study cookbook with advised foods and recipes that aligned with diet interventions was given to participants. The study cookbook was accompanied with resources and patient education related to the weekly content covered during classes. Multi-modal pre- and post-class email communication included additional videos, recipes, and resources. Research dietitians were available throughout the study to answer questions and support adherence to diet changes. Additional information on the curriculum and schedule of weekly virtual cooking classes that applied tenets of culinary medicine[1,2] implemented in a virtual teaching kitchen[3] format will be reported elsewhere. Briefly, classes lasted approximately 90 minutes each, including a welcome/check in, troubleshooting challenges, culinary and lifestyle health topic discussion, and dedicated hands-on shared cooking time, followed by closing with tasting and setting goals for the upcoming week.

### Study Recruitment

Participants were recruited from UF Health clinics through the cardiology clinical research section and utilizing electronic health record recruitment services to identify potentially eligible participants. Balancing participant retention with a sufficient time period to minimize any potential effects from the first diet period, the washout length was informed by similar study designs which either indicated maximal lipid reductions may occur within one week with a high fiber plant-based diet[4] or included no washout periods for reducing participant burden/likelihood of dropouts and providing insight on potential order effects.[5–7]

Enrollment and recruitment of participants is demonstrated in **Supplemental Figure 1b**. Following baseline visits in the period between enrolling and starting the study, 15 individuals withdrew prior to beginning the intervention due to loss of interest in addition to one participant who discontinued one week into the intervention, attending one cooking class, but without beginning the advised diet. Four volunteers were excluded from all analyses: two who withdrew after the first 4-week diet period, one participant who did not attend their final follow up visit, and one due to unrealistic survey response times in speed and reports suggesting extreme lack of adherence. One additional participant was excluded solely from metabolic analyses after the first 4-week period due to confounding medication changes (participant reduced statin by half after the first diet period without consulting physician).

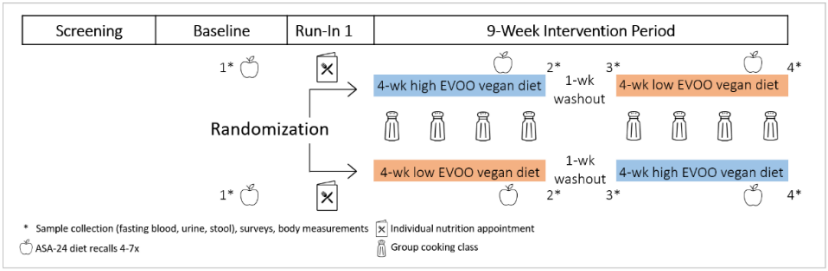
### Physical Activity Assessment

Physical activity habits were evaluated using the International Physical Activity Questionnaire (IPAQ).[8]

### Other Data Collection

Self-reported social history and sociodemographic information on age, sex/gender, race/ethnicity, education, household income, eligibility for nutrition assistance, smoking history, and cooking and grocery shopping habits were collected at baseline using standardized forms.

(a)

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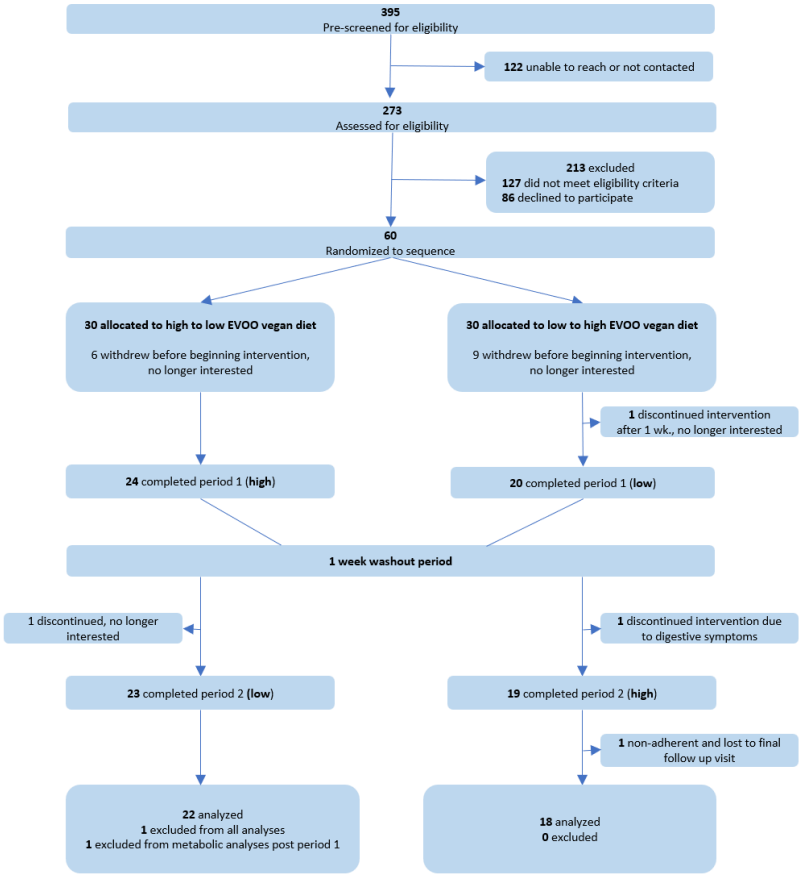



**eFigure 1. Recipe for Heart Health Study Design and Participant CONSORT Flow Diagram**. Abbreviations: EVOO, extra virgin olive oil; ASA-24, Automated Self-Administered 24-Hour Dietary Assessment Tool. Following baseline visits in the period between enrolling and starting the study, 15 individuals withdrew prior to beginning the intervention due to loss of interest in addition to one participant who discontinued one week into the intervention, attending one cooking class, but without beginning the advised diet. Four volunteers were excluded from all analyses: two who withdrew after the first 4-week diet period, one participant who did not attend their final follow up visit, and one due to unrealistic survey response times in speed and reports suggesting extreme lack of adherence. One additional participant was excluded solely from metabolic analyses after the first 4-week period due to confounding medication changes (participant reduced statin by half after the first diet period without consulting physician).

## eResults: Supplementary Results

### Cardiometabolic and Anthropometric Outcomes

No differences were detected in low-density lipoprotein cholesterol at baseline between the high-to-low or low-to-high groups (**Supplemental Table 1**). In addition to evaluation of metabolic outcomes as reported in the main paper, analyses were conducted to assess metabolic outcomes by diet period (**Supplemental Table 2** and **Supplemental Figure 2)** as well as pre-post intervention comparisons among all participants (**Supplemental Table 3**). Levels of low-density lipoprotein cholesterol at each timepoint during the high and low EVOO diets are visualized in **Supplemental Figure 8.** **Supplemental Figure 9** demonstrates body weight changes by randomization at the same timepoints. **Supplemental Table 4** shows changes in blood pressure and anthropometric outcomes, including body weight, waist circumference, and waist-to-hip ratio. Diastolic blood pressure reduced from 81+1 to 78+1 mmHg during low EVOO (P=0.02). Body weight decreased from baseline (mean+SD 89.0+3.5 kg) after high EVOO by 5.9% (83.8+2.8 kg, P=0.04) and low EVOO by 6.7% (83.1+2.7 kg, P=0.01). By period in the high-to-low group, weight decreased -2.6+0.4 kg at 4 weeks post-high EVOO and -2.0+0.2 kg at 9 weeks post-low EVOO (both P<0.001). In the low-to-high group, weight decreased -2.7+0.5 kg at 4 weeks post-low EVOO (P<0.001) and -0.8+0.3 kg at 9 weeks post-high EVOO (P=0.02). Waist circumference similarly decreased by 4-5% (P<0.001), predominantly in women participants.

### Physical activity

No significant differences were observed in physical activity levels between the high and low EVOO phases (**Supplemental Table 5).**

### Diet Intake

A comprehensive summary of dietary data of nutrients and food groups as determined by ASA-24 is provided in **Supplemental Table 6**. Dietary data represent 5-7 days of dietary recalls for most individuals. For participants who completed below 5 food recalls during at least one of the diet periods (n=11), analyses include 2-4 recalls. An approximately equal number of days from the beginning and end of the logged period for a total of 7 recalls were analyzed among those who completed greater than 7 days of recalls (n=13). Dietary information was evaluated by detailed review of dietary recalls by the research dietitian and supported with analyses TMAO and skin carotenoid status (reported in detail elsewhere) to confirm compliance. Reported olive oil intake, animal foods, whole plant foods, and heavily refined food items assessed in reviewing recalls reflected dietary guidance with minimal deviations.

Shown in **Supplemental Figures 3-7,** reported mean daily fiber intake significantly increased (from 20.0$\pm$1.5 to 29.0$\pm$1.6 [high EVOO] and 28.2$\pm$1.5 [low EVOO], p<0.001), with concomitant reductions in sodium (-25.5%, p<0.0001) and added sugars (-57%, p<0.0001) compared to baseline intakes for both diets. No differences were detected in

energy intake between the high EVOO diet and baseline. From 80±36 grams at baseline, fat intake increased to 93±25 grams during the high EVOO and decreased to 48±19 grams during the low EVOO, which reductions in saturated fatty acids during both diets, to a greater extent during the low EVOO diet. Except for total energy and fat intake, nutrient profiles were comparable between diets.

**eTable 1**. **Baseline Comparisons of Demographic and Clinical Outcomes by Diet Order Randomization.**

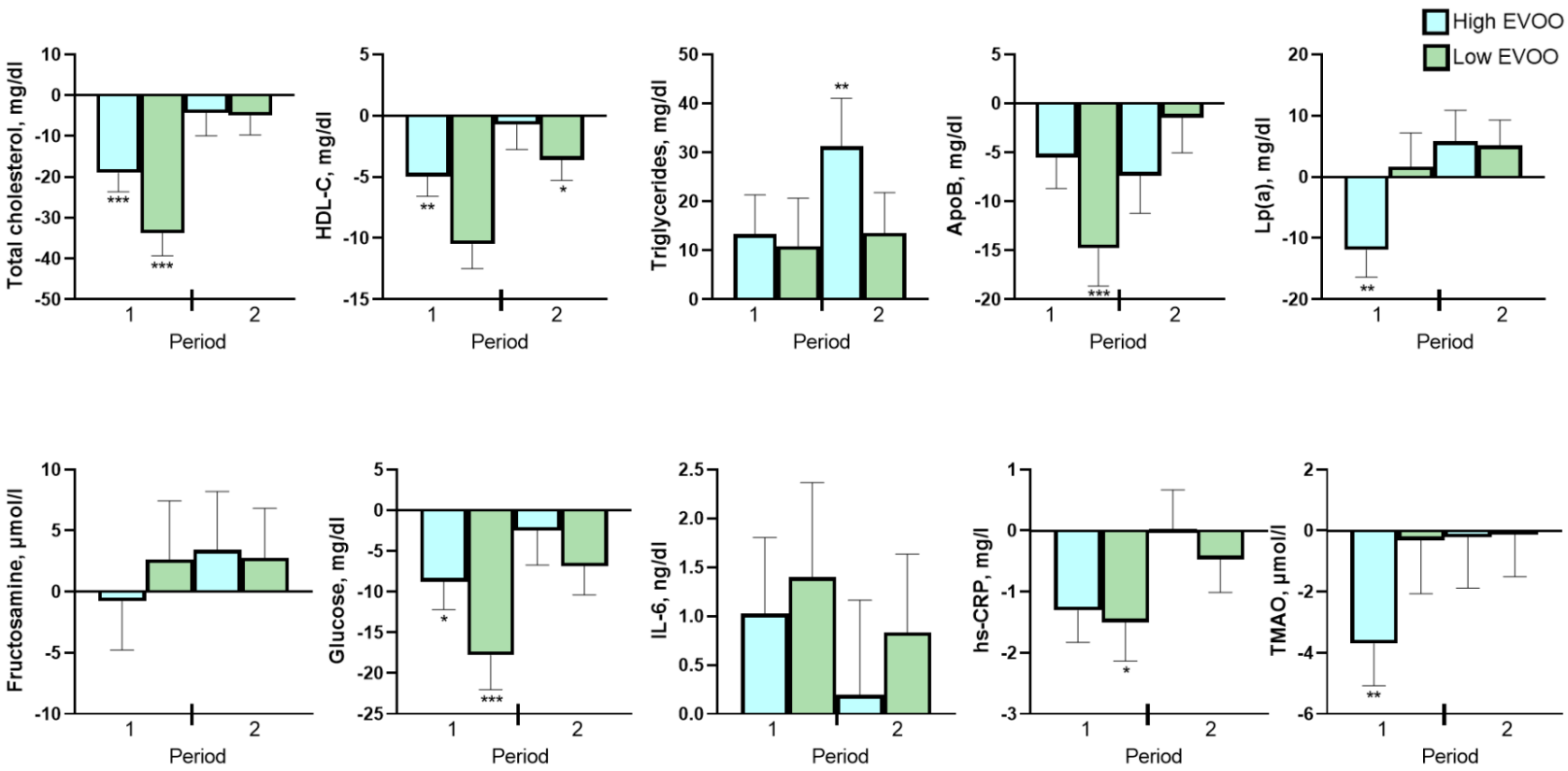
| Baseline characteristic | All (n=40) | High to Low EVOO (n=22) | Low to High EVOO (n=18) | P-value |
|---|---|---|---|---|
| Total cholesterol, mg/dl | 201.1 (32.5) | 202.7 (33.6) | 197.6 (36.1) | 0.645 |
| LDL cholesterol, mg/dl | 114.4 (29.3) | 117.0 (27.5) | 110.9 (33.3) | 0.535 |
| HDL cholesterol, mg/dl | 63.5 (17.6) | 61.4 (15.5) | 63.3 (19.1) | 0.728 |
| Triglycerides, mg/dl | 115.7 (62.3) | 122.0 (53.9) | 117.2 (72.1) | 0.814 |
| Apolipoprotein B, mg/dl | 98.8 (19.5) | 100.1 (19.4) | 99.5 (22.7) | 0.924 |
| Lipoprotein(a), mg/dl | 50.2 (66.6) | 59.4 (81.1) | 47.3 (53.6) | 0.615 |
| Fructosamine, umol/l | 264.1 (30.0) | 258.8 (19.9) | 267.4 (35.0) | 0.338 |
| Glucose, mg/dl | 90.5 (24.0) | 87.8 (16.6) | 91.8 (29.1) | 0.582 |
| Interleukin-6, ng/ml | 3.6 (1.5) | 3.6 (1.7) | 3.7 (1.8) | 0.773 |
| hs-CRP, mg/l | 3.3 (4.0) | 4.4 (4.8) | 2.3 (2.4) | 0.097 |
| TMAO, uM | 6.6 (8.8) | 8.1 (10.1) | 4.7 (3.8) | 0.183 |
| Systolic BP, mmHg | 135 (16) | 134 (20) | 139 (18) | 0.430 |
| Diastolic BP, mmHg | 81 (8) | 79 (9) | 83 (8) | 0.153 |
| Waist circumference | 103.4 (15.5) | 109.5 (16.5) | 100.9 (12.9) | 0.082 |
| Hip circumference | 115.2 (12.2) | 117.8 (12.2) | 114.8 (11.1) | 0.428 |
| Energy, kcal/day | 1797.6 (689.8) | 2048 (612) | 1546 (658) | 0.017 |
| Fat, g | 79.4 (37.1) | 87.6 (34.0) | 70.3 (36.9) | 0.132 |
| Fat, % | 39.0 (6.0) | 37.8 (5.7) | 40.0 (5.6) | 0.303 |
| Age, years | 64.4 (8.6) | 65.5 (6.3) | 63.0 (10.9) | 0.370 |
| Sex, female, n (%) | 30 (75%) | 14 (64%) | 16 (89%) | 0.080 |
| BMI, $kg/m^2$ | 31.9 (7.1) | 31.9 (6.4) | 32.0 (8.0) | 0.990 |
| Body weight, kg | 84.7 (17.5) | 91.1 (19.0) | 81.2 (13.9) | 0.074 |
| Physical activity, MET-min | 3265.5 (3073.3) | 2963.9 (2690.9) | 3124.1 (3324.3) | 0.876 |
| Race/ethnicity, n (%)* | | | | |
| African American or Black | 9 (22.5%) | 5 (22.7%) | 4 (22.2%) | 1.000 |
| Asian or Pacific Islander | 1 (2.5%) | 0 (0%) | 1 (5.5%) | 0.450 |
| Hispanic/LatinX | 1 (2.5%) | 1 (4.5%) | 0 (0%) | 1.000 |
| Non-Hispanic White | 29 (72.5%) | 15 (68.1%) | 14 (77.7%) | 0.499 |
| Other | 2 (5.0%) | 2 (9.0%) | 0 (0%) | 0.492 |
| Highest level of education achieved, n (%) | | | | |
| High school degree | 1 (2.5%) | 0 (0%) | 1 (5.6%) | 0.830 |
| Some college | 13 (32.5%) | 7 (31.8%) | 6 (33.3%) | |
| College degree | 11 (27.5%) | 6 (27.3%) | 5 (27.8%) | |
| Some post-graduate degree | 2 (5.0%) | 1 (4.5%) | 1 (5.6%) | |
| Post-graduate degree | 13 (32.5%) | 8 (36.4%) | 5 (27.8%) | |

Data are presented as mean (SD) or n (%). P values were obtained from Chi-square or Fischer's exact tests for categorical variables and independent t-tests for continuous variables.

**eTable 2. Cardiometabolic Outcome Changes by Diet Period.**

| | Period 1 | | | | Period 2 | | | |
|---|---|---|---|---|---|---|---|---|
| | Δ high EVOO | Δ low EVOO | Treatment effect | *P*-value | Δ high EVOO | Δ low EVOO | Treatment effect | *P*-value |
| Total cholesterol, mg/dl | **-19.0 (4.6)** | **-33.8 (5.6)** | -14.7 (6.9) | 0.035 | -4.3 (5.6) | -5.0 (4.7) | -0.7 (7.1) | 0.927 |
| LDL cholesterol, mg/dl | **-16.7 (4.2)** | **-25.5 (5.1)** | -8.8 (6.3) | 0.162 | -9.7 (5.1) | -4.0 (4.3) | 5.7 (6.5) | 0.382 |
| HDL cholesterol, mg/dl | **-5.0 (1.6)** | -10.5 (2.0) | -5.5 (2.4) | 0.025 | -0.7 (2.0) | **-3.6 (1.7)** | -2.9 (2.5) | 0.256 |
| Triglycerides, mg/dl | +13.3 (8.0) | +10.9 (9.8) | -2.4 (12.0) | 0.843 | **+31.3 (9.8)** | +13.5 (8.3) | -17.8 (12.4) | 0.156 |
| Apolipoprotein B, mg/dl | -5.5 (3.2) | **-14.8 (3.8)** | -9.3 (4.7) | 0.053 | -7.4 (3.9) | -1.5 (3.6) | 5.9 (5.2) | 0.260 |
| Lipoprotein(a), mg/dl | **-11.9 (4.4)** | +1.7 (5.5) | 13.6 (6.7) | 0.049 | +5.8 (5.1) | +5.2 (4.1) | -0.6 (6.3) | 0.921 |
| Fructosamine, umol/l | -0.8 (4.0) | +2.7 (4.8) | 3.4 (5.9) | 0.564 | +3.4 (4.8) | +2.8 (4.0) | -0.7 (6.1) | 0.913 |
| Glucose, mg/dl | **-8.8 (3.4)** | **-17.8 (4.2)** | -9.0 (5.1) | 0.082 | -2.5 (4.2) | -6.9 (3.5) | -4.3 (5.3) | 0.414 |
| Interleukin-6, ng/ml | +1.0 (0.8) | +1.4 (1.0) | 0.4 (1.2) | 0.753 | +0.2 (1.0) | +0.8 (0.8) | 0.6 (1.2) | 0.592 |
| hs-CRP, mg/l | **-1.3 (0.5)** | **-1.5 (0.6)** | -0.2 (0.8) | 0.803 | +0.02 (0.6) | -0.5 (0.5) | -0.5 (0.8) | 0.546 |
| TMAO, uM | **-3.7 (1.4)** | -0.3 (1.7) | 3.4 (2.1) | 0.113 | -0.2 (1.7) | -0.1 (1.4) | 0.1 (2.1) | 0.963 |

Changes in outcomes and estimated treatment effects from baseline comparing the high and low EVOO vegan diets for the first and second periods of the study. Abbreviations: LDL, low-density lipoprotein; HDL, high-density lipoprotein; hs-CRP, high-sensitivity C-reactive protein; TMAO, trimethylamine N-oxide. Values represent mean (SEM). Bolded values indicate significant carryover effects were detected for the respective outcome and period. P-values were obtained from linear mixed models adjusted for age, sex, and body weight change.




**eFigure 2: Changes in Secondary Cardiometabolic Outcomes from Baseline after the High and Low EVOO Diets by Each 4-Week Period.**

Values are mean (SEM). **P*<0.05, ***P*<0.01, ****P*<0.001. Linear mixed models adjusted for age, sex, and body weight change were used for analyses. *P* values correspond to carryover effects for the respective timepoint. Abbreviations: HDL-C, high-density lipoprotein cholesterol; EVOO, extra virgin olive oil; apoB, apolipoprotein B; Lp(a), lipoprotein(a); IL-6, interleukin-6; hs-CRP, high-sensitivity C-reactive protein; TMAO, trimethylamine N-oxide.

**eTable 3. Fasting Blood Measurements and Clinical Risk Factors at Baseline and Post-Intervention**.

| | N | Baseline | Post-Intervention | Mean difference | *P*-Value |
|---|---|---|---|---|---|
| Total cholesterol, mg/dl | 39 | 201.8 (5.4) | 183.1 (5.7) | -18.1 (3.7) | <0.001 |
| LDL cholesterol, mg/dl | 39 | 115.2 (4.8) | 100.9 (4.8) | -14.3 (3.5) | <0.001 |
| HDL cholesterol, mg/dl | 39 | 62.8 (2.7) | 56.9 (2.0) | -5.9 (1.5) | <0.001 |
| Triglycerides, mg/dl | 39 | 119.3 (10.0) | 126.3 (10.4) | 9.9 (5.4) | 0.076 |
| Apolipoprotein B, mg/dl | 35 | 98.8 (3.5) | 88.1 (3.6) | -10.7 (2.1) | <0.001 |
| Lipoprotein(a), mg/dl | 33 | 55.2 (12.1) | 52.2 (10.7) | -2.9 (2.7) | 0.292 |
| Fructosamine, umol/l | 38 | 263.1 (4.6) | 260.8 (3.5) | -1.7 (3.1) | 0.583 |
| Glucose, mg/dl | 39 | 89.0 (3.7) | 81.4 (2.4) | -7.6 (2.9) | 0.012 |
| Interleukin-6, ng/ml | 38 | 3.7 (0.3) | 3.5 (0.2) | -0.1 (0.2) | 0.606 |
| hs-CRP, mg/l | 38 | 3.6 (0.7) | 2.7 (0.5) | -0.9 (0.3) | 0.008 |
| TMAO, uM | 39 | 5.6 (0.9) | 4.7 (0.6) | -1.8 (1.2) | 0.158 |
| Systolic BP, mm Hg | 40 | 136.5 (3.0) | 133.5 (2.4) | -3.0 (2.5) | 0.228 |
| Diastolic BP, mm Hg | 40 | 81.0 (1.4) | 78.7 (1.4) | -2.3 (1.4) | 0.109 |
| HR, bpm | 40 | 73.8 (2.2) | 73.8 (2.1) | -0.03 (2.8) | 0.993 |

Abbreviations: LDL, low-density lipoprotein; HDL, high-density lipoprotein; hs-CRP, high-sensitivity C-reactive protein; TMAO, trimethylamine N-oxide. Values represent mean (SEM). P-values were obtained from paired T-tests, with significance detected at P<0.05. One participant was excluded from metabolic analyses due to confounding medication changes.

**eTable 4. Blood Pressure and Anthropometric Outcomes at Baseline and at the End of the High and Low EVOO Diets.**

| | Baseline | High EVOO | P value High EVOO vs Baseline | Low EVOO | P value Low EVOO vs Baseline | High-Low Difference | P value High vs Low EVOO |
|---|---|---|---|---|---|---|---|
| Systolic blood pressure | 137 (3) | 134 (3) | 0.523 | 133 (2) | 0.259 | 1 (2) | 0.862 |
| Diastolic blood pressure | 81 (1) | 80 (1) | 0.235 | 78 (1) | 0.019 | 2 (1) | 0.139 |
| Body weight, kg | | | | | | | |
| Women | 84.8 (6.2) | 82.5 (6.2) | 0.077 | 80.7 (6.2) | 0.050 | 1.8 (0.3) | 0.173 |
| Men | 101.2 (4.6) | 97.6 (4.7) | 0.004 | 96.2 (4.6) | <.001 | 1.5 (0.6) | 0.006 |
| Both sexes | 89.0 (3.5) | 83.8 (2.8) | 0.036 | 83.0 (2.7) | 0.014 | 0.7 (0.3) | 0.011 |
| Body mass index, $kg/m^2$ | | | | | | | |
| Women | 32.0 (2.3) | 31.1 (2.3) | 0.063 | 30.4 (2.3) | 0.038 | 0.7 (0.1) | 0.156 |
| Men | 32.4 (1.8) | 31.3 (1.8) | 0.003 | 30.8 (1.8) | <0.001 | 0.5 (0.1) | 0.006 |
| Both sexes | 32.0 (1.1) | 30.1 (0.9) | 0.029 | 29.9 (0.9) | 0.011 | 0.2 (0.1) | 0.012 |
| Waist circumference, cm | | | | | | | |
| Women | 106.7 (5.7) | 104.0 (5.5) | <0.001 | 101.8 (5.3) | <0.001 | 2.1 (1.0) | 0.196 |
| Men | 114.3 (4.8) | 110.3 (4.6) | 0.01 | 109.0 (5.0) | <0.001 | 1.4 (1.1) | 0.258 |
| Both sexes | 105.6 (2.4) | 101.4 (2.4) | <0.001 | 100.2 (2.5) | <0.001 | 1.1 (0.7) | 0.093 |
| Waist to hip ratio | | | | | | | |
| Women | 0.89 (0.02) | 0.86 (0.01) | 0.044 | 0.87 (0.02) | <0.001 | 0.01 (0.01) | 0.135 |
| Men | 0.98 (0.02) | 0.98 (0.03) | 0.791 | 0.94 (0.05) | 0.303 | 0.04 (0.03) | 0.221 |
| Both sexes | 0.91 (0.01) | 0.89 (0.01) | 0.072 | 0.87 (0.01) | 0.001 | 0.02 (0.01) | 0.054 |

Values are presented as mean (SEM). P values obtained from paired t-tests.

**eTable 5. Between Group Comparisons of Self-Reported Physical Activity Levels.**

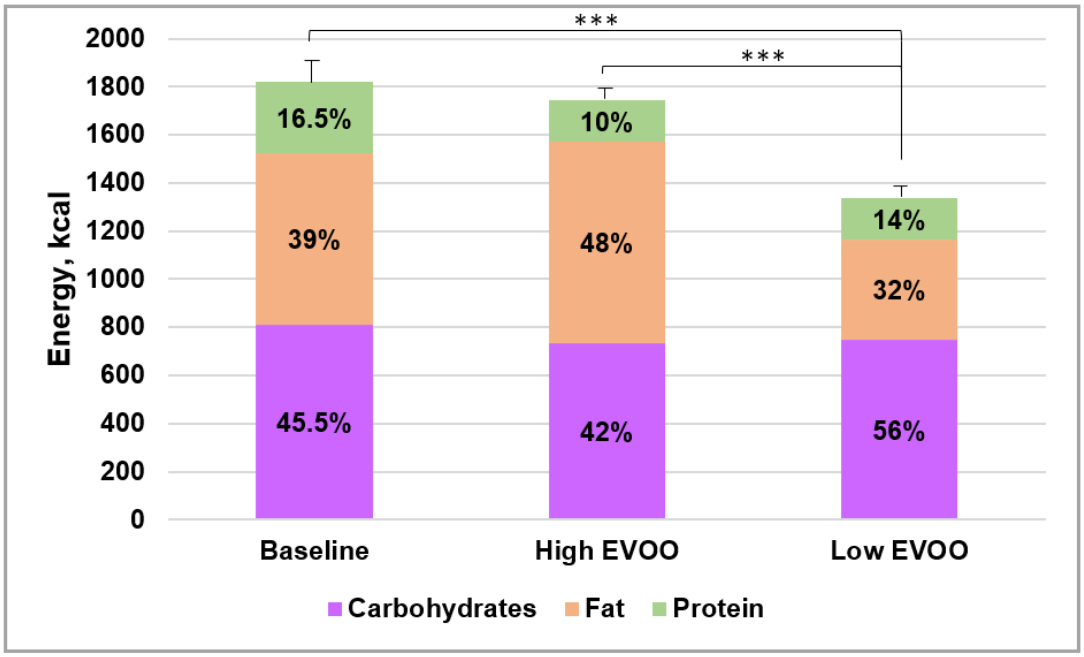
| | High to Low Group (n=22) | Low to High Group (n=18) | *P*-Value |
|---|---|---|---|
| Baseline | 2963 (2691) | 3124 (3324) | 0.867 |
| Week 4 – Phase 1 | 3651 (3586) | 3467 (3625) | 0.873 |
| Week 9 – Phase 2 | 4096 (3489) | 2953 (3256) | 0.295 |

Data presented as mean (SD) in MET-minutes per week at baseline and during the intervention. P-values were obtained from independent T-tests between groups at baseline, during phase 1, and during phase 2. No significant differences were observed for within group comparisons between phases assessed by paired T-tests (all >0.05).

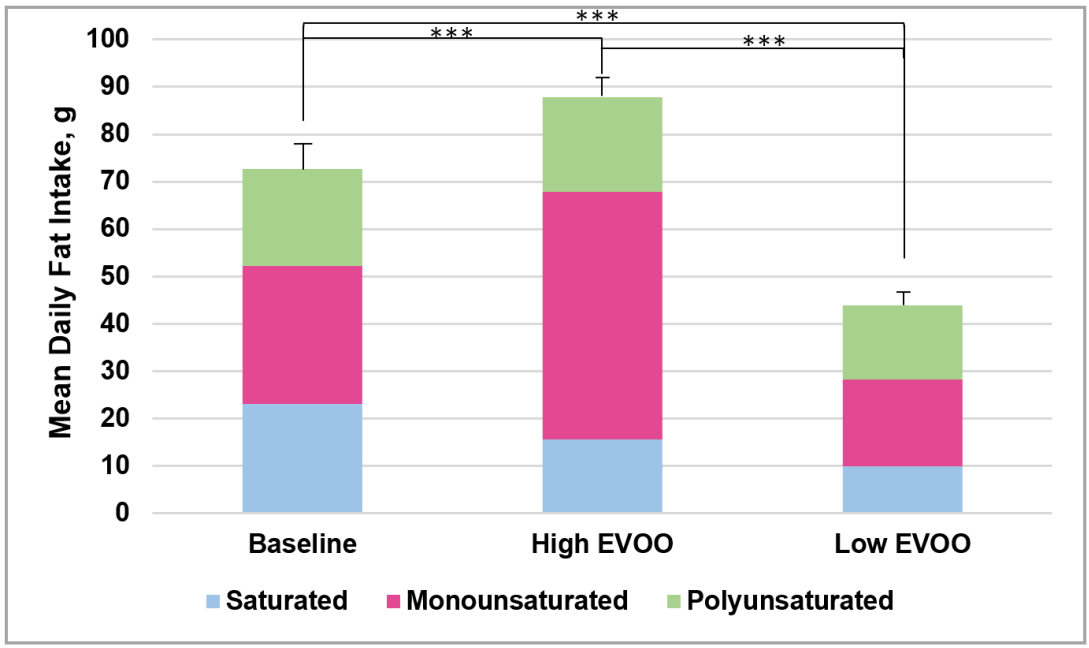
**eTable 6. Daily Intake of Selected Nutrients and Food Groups at Baseline and During the High and Low EVOO Vegan Diets.**

| Nutrient/Food Group | Baseline | High EVOO | P value Baseline vs High EVOO | Low EVOO | P value Baseline vs Low EVOO | P value High vs Low EVOO |
|---|---|---|---|---|---|---|
| Energy, kcal/d | 1822 (674) | 1745 (513) | 0.462 | 1338 (374) | <0.001 | <0.001 |
| Carbohydrate, g/d | 202 (84) | 190 (75) | 0.369 | 186 (51) | 0.164 | 0.675 |
| Carbohydrate, % | 44 (7) | 43 (8) | 0.316 | 57 (9) | <0.001 | <0.001 |
| Fat, g/d | 80 (36) | 93 (25) | 0.020 | 48 (19) | <0.001 | <0.001 |
| Fat, % | 39 (6) | 49 (8) | <0.001 | 32 (7) | <0.001 | <0.001 |
| Protein, g/d | 71 (24) | 45 (20) | <0.001 | 46 (16) | <0.001 | 0.690 |
| Protein, % | 16 (4) | 10 (2) | <0.001 | 14 (2) | <0.001 | <0.001 |
| Sodium, mg/d | 2984 (1066) | 2207 (883) | <0.001 | 2240 (829) | 0.888 | 0.758 |
| Sodium, mg/1000 kcal | 1682 (364) | 1248 (261) | <0.001 | 1696 (453) | <0.001 | <0.001 |
| Fiber, g/d | 20 (9) | 29 (10) | <0.001 | 28 (10) | <0.001 | 0.569 |
| Fiber, g/1000 kcal | 11 (4) | 17 (4) | <0.001 | 21 (5) | <0.001 | <0.001 |
| Alcohol, g | 6.3 (16.5) | 4.0 (12.1) | 0.022 | 4.6 (12.1) | 0.106 | 0.253 |
| Added sugars, g/d | 10 (8) | 5 (4) | <0.001 | 5 (3) | 0.001 | 0.974 |
| Added sugars, g/1000 kcal | 6 (3) | 2 (2) | <0.001 | 3 (2) | <0.001 | 0.001 |
| Added sugars, % energy | 2.2 (1.4) | 1.0 (0.6) | <0.001 | 1.4 (0.8) | 0.001 | <0.001 |
| Saturated fat, g/d | 23 (9) | 16 (5) | <0.001 | 10 (4) | <0.001 | <0.001 |
| Saturated fat, g/1000 kcal | 13 (2) | 9 (2) | <0.001 | 7 (2) | <0.001 | <0.001 |
| Monounsaturated fat, g/d | 29 (16) | 52 (31) | <0.001 | 18 (8) | <0.001 | <0.001 |
| Monounsaturated fat, g/1000 kcal | 15 (4) | 31 (6) | <0.001 | 13 (3) | 0.010 | <0.001 |
| Polyunsaturated fat, g/d | 20 (11) | 20 (8) | 0.797 | 16 (7) | 0.013 | 0.003 |
| Polyunsaturated fat, g/1000 kcal | 11 (3) | 11 (3) | 0.307 | 12 (4) | 0.253 | 0.773 |
| Omega-3 fatty acids, g/d | 2 (1) | 2 (1) | 0.441 | 2 (1) | 0.141 | 0.453 |
| Omega-3 fatty acids, g/1000 kcal | 1 (1) | 1 (1) | 0.630 | 1 (1) | 0.152 | 0.123 |
| Omega-6 fatty acids, g/d | 18 (10) | 18 (7) | 0.885 | 14 (6) | 0.011 | 0.001 |
| Omega-6 fatty acids, g/1000 kcal | 10 (3) | 10 (3) | 0.203 | 10 (3) | 0.348 | 0.819 |
| Animal products, oz-eq | 5.3 (2.2) | 0.7 (0.8) | <0.001 | 0.9 (1.0) | <0.001 | 0.443 |
| Total vegetables, cup-eq | 2.1 (1.5) | 2.8 (1.2) | 0.001 | 2.6 (1.2) | <0.001 | 0.147 |
| Total fruit, cup-eq | 1.0 (0.7) | 1.6 (0.9) | <0.001 | 1.5 (0.9) | 0.001 | 0.466 |
| Whole grains, oz-eq | 1.1 (0.9) | 2.2 (1.6) | <0.001 | 2.2 (1.5) | <0.001 | 0.925 |
| Legumes, cup-eq | 0.1 (0.1) | 0.4 (0.3) | <0.001 | 0.4 (0.3) | <0.001 | 0.519 |
| Nuts/seeds, oz-eq | 0.8 (1.0) | 1.6 (1.2) | 0.001 | 1.9 (1.6) | <0.001 | 0.242 |

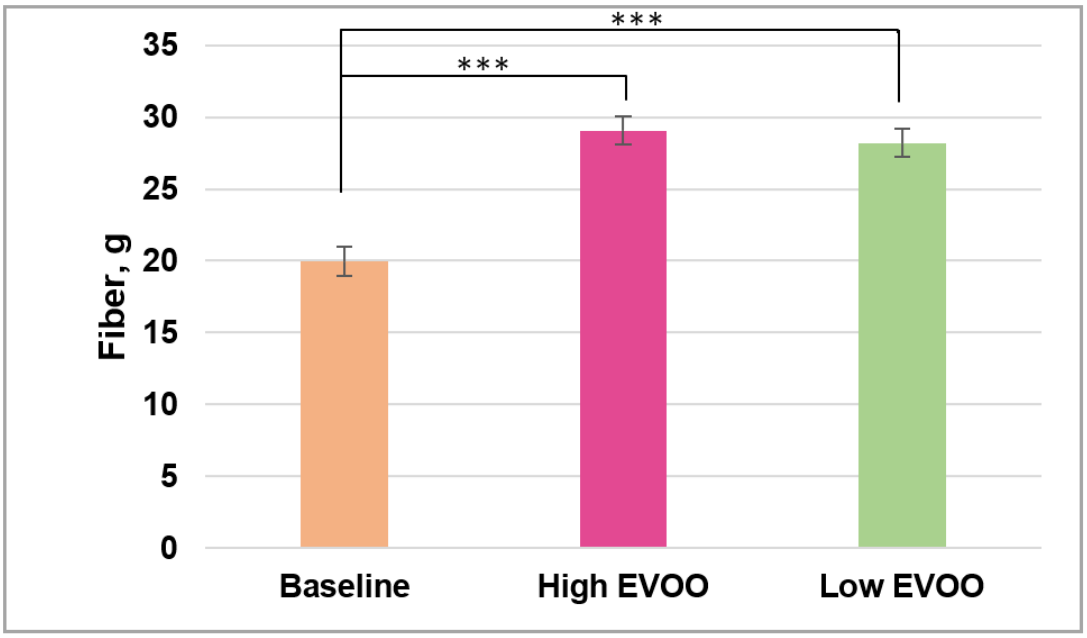
Abbreviations: kcal, kilocalories; d, day; g, grams; oz-eq, ounce equivalents; cup-eq, cup equivalents. Values are presented as mean±sd. Comparisons obtained from paired t-tests for each timepoint.



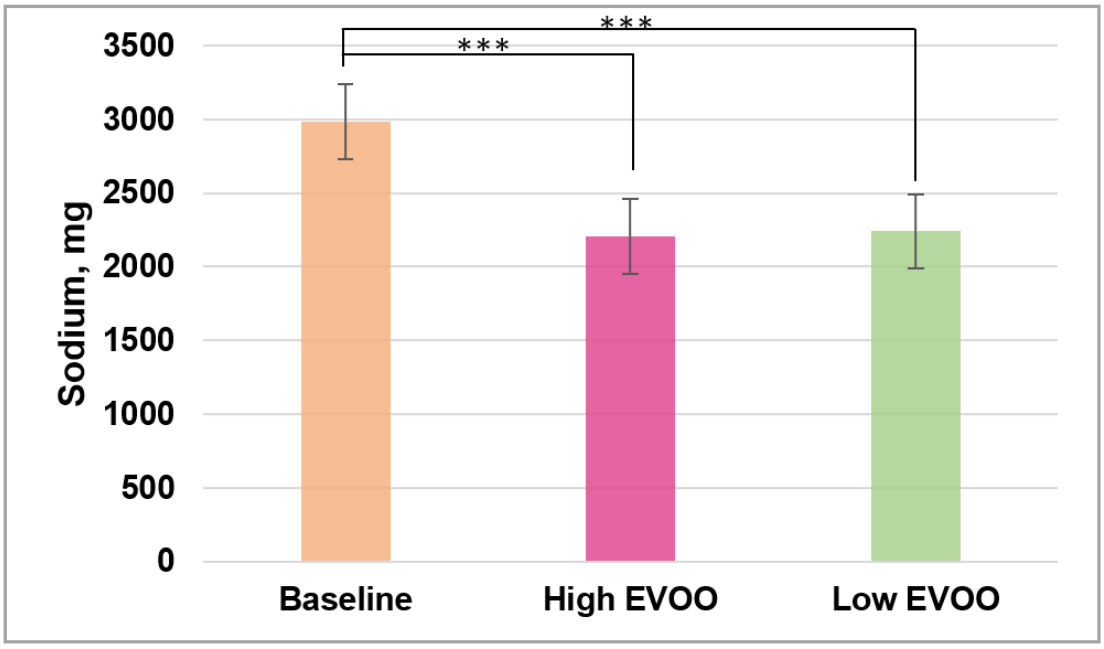

**eFigure 3. Daily Intake of Energy and Macronutrient Distribution at Baseline and During the High and Low EVOO Vegan Diets**. Data are presented as mean (sd), analyzed by paired t-tests. *$P$<0.05, **$P$<0.01, ***$P$<0.001. Abbreviations: EVOO, extra virgin olive oil; kcal, kilocalories.



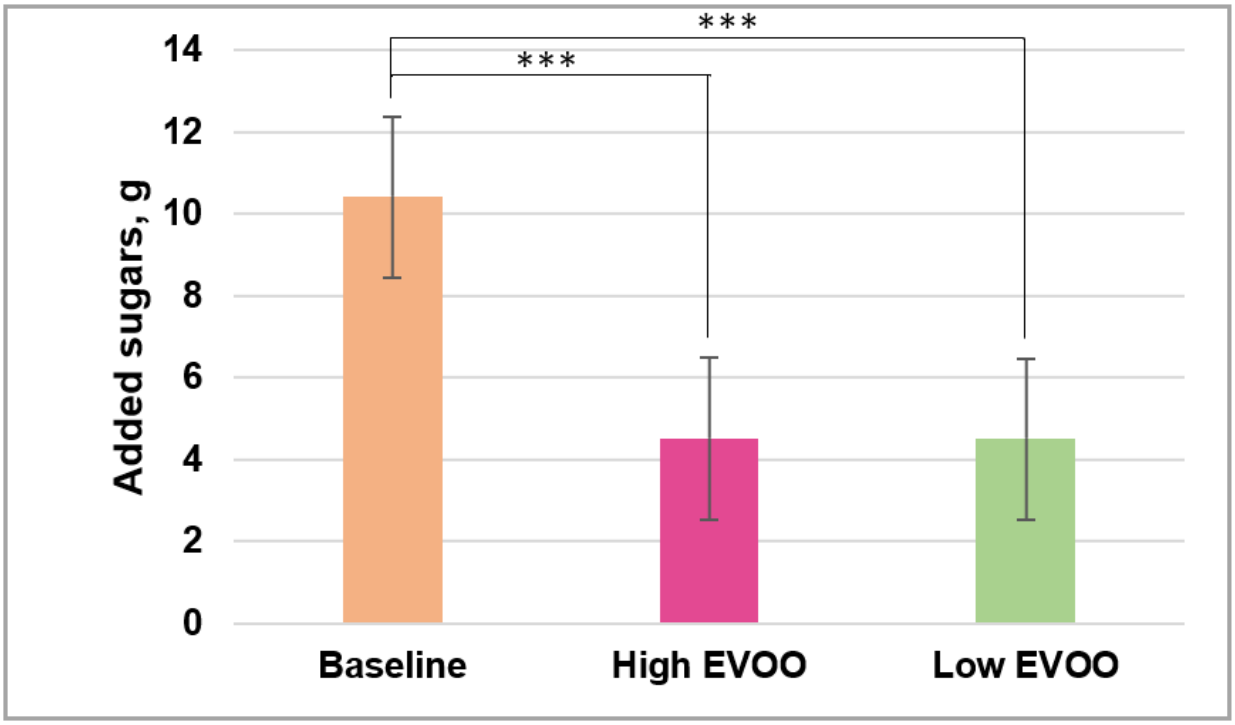

**eFigure 4**. **Daily Intake of Dietary Fat and Composition at Baseline and During the High and Low EVOO Vegan Diets**. Data are presented as mean (sd), analyzed by paired t-tests. *$P$<0.05, **$P$<0.01, ***$P$<0.001. Abbreviations: EVOO, extra virgin olive oil; g, grams.



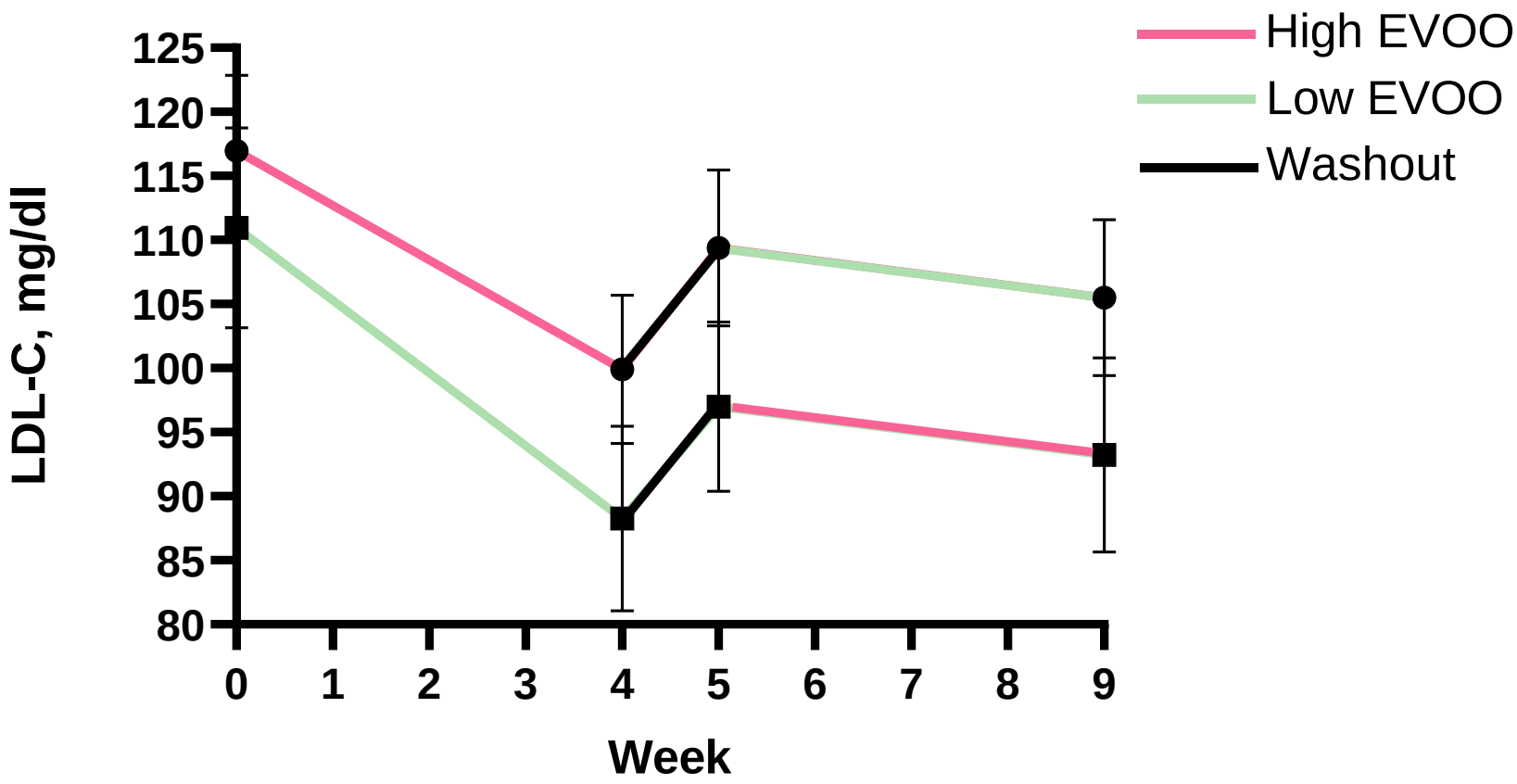

**eFigure 5**. **Daily Intake of Dietary Fiber at Baseline and During the High and Low EVOO Vegan Diets**. Data are presented as mean (sd), analyzed by paired t-tests. **P*<0.05, ***P*<0.01, ****P*<0.001. Abbreviations: EVOO, extra virgin olive oil; g, grams.



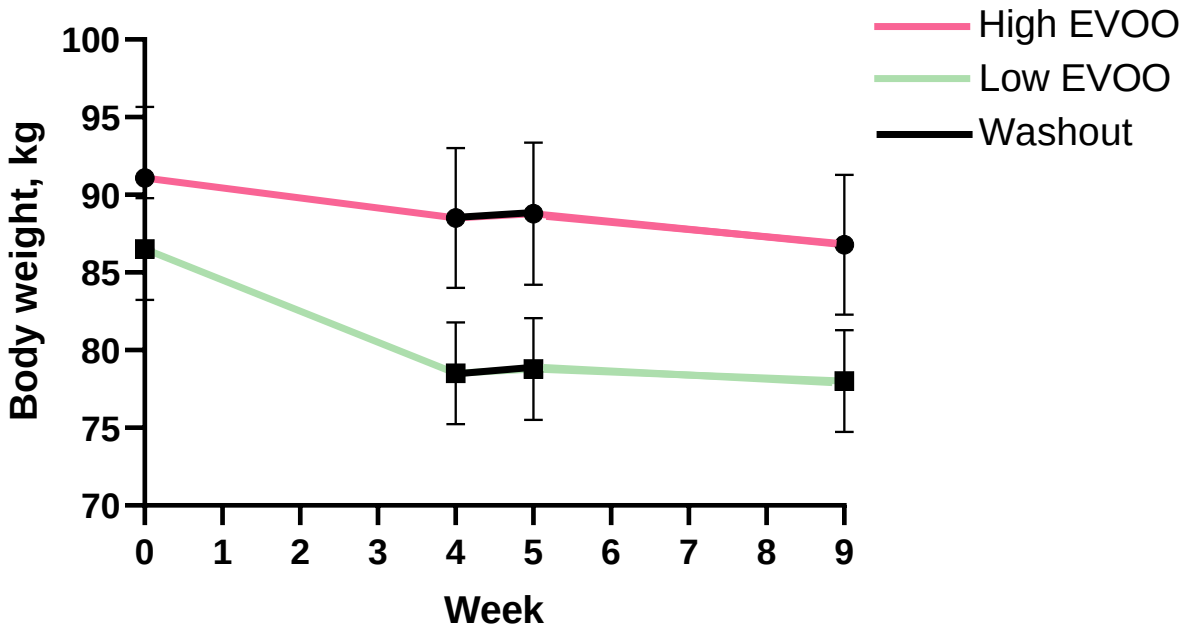

**eFigure 6**. **Daily Intake of Sodium at Baseline and During the High and Low EVOO Vegan Diets.** Data are presented as mean (sd), analyzed by paired t-tests. **P*<0.05, ***P*<0.01, ****P*<0.001. Abbreviations: EVOO, extra virgin olive oil; mg, milligrams.




**eFigure 7**. **Daily Intake of Added Sugar at Baseline and During the High and Low EVOO Vegan Diets.** Data are presented as mean (sd), analyzed by paired t-tests. **P*<0.05, ***P*<0.01, ****P*<0.001. Abbreviations: EVOO, extra virgin olive oil; g, grams.




**eFigure 8. Unadjusted Mean LDL-C Levels by Timepoint and Diet Order Randomization.** Data are presented as mean (SEM), with the pink lines corresponding to the high EVOO diet period (4 weeks), green lines corresponding to the low EVOO diet period (4 weeks), and black lines indicating the washout week (1 week). The top line with circular data points includes participants randomized to the high to low EVOO sequence order (n=22), while the lower line with square data points incudes participants randomized to the low to high sequence order (n=18). Abbreviations: LDL-C, low-density lipoprotein cholesterol; EVOO, extra virgin olive oil; mg/dl, milligrams per deciliter.




**eFigure 9. Change in Body Weight after the High and Low EVOO Diet Periods by Randomization**. Data are presented as mean (SEM), with the pink lines corresponding to the high EVOO diet period (4 weeks), green lines corresponding to the low EVOO diet period (4 weeks), and black lines indicating the washout week (1 week). The top line with circular data points includes participants randomized to the high to low EVOO sequence order (n=22), while the lower line with square data points incudes participants randomized to the low to high sequence order (n=18). Abbreviations: EVOO, extra virgin olive oil; kg, kilograms.

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