

Extra virgin coconut oil (*Cocos nucifera* L.) intake shows neurobehavioural and intestinal health effects in obesity-induced rats

Supplementary material

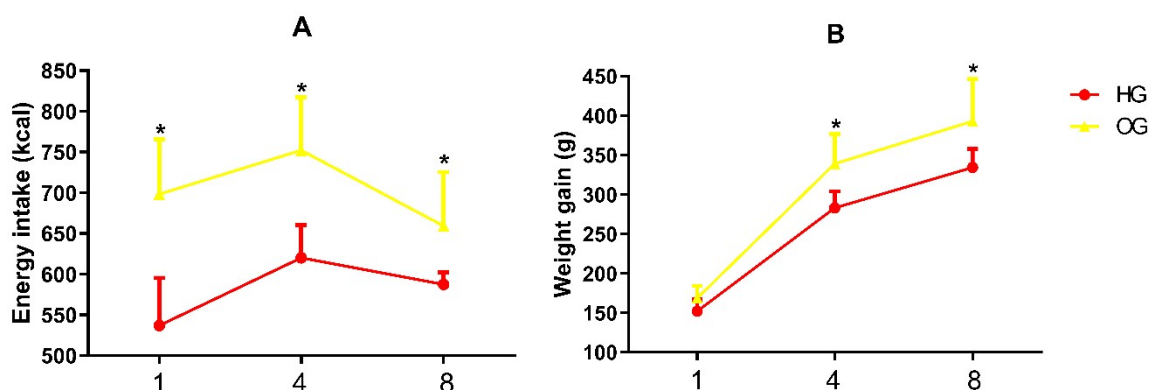


Fig. S1 (A) Energy intake and (B) weight gain in healthy and obese rats during the pre-treatment period with E-VCO. Data presented as mean and standard deviation of the mean. Two-way ANOVA, $p \leq 0.05$ Tukey's post hoc test. *Differed from HG. HG= healthy group; OG = obese group.

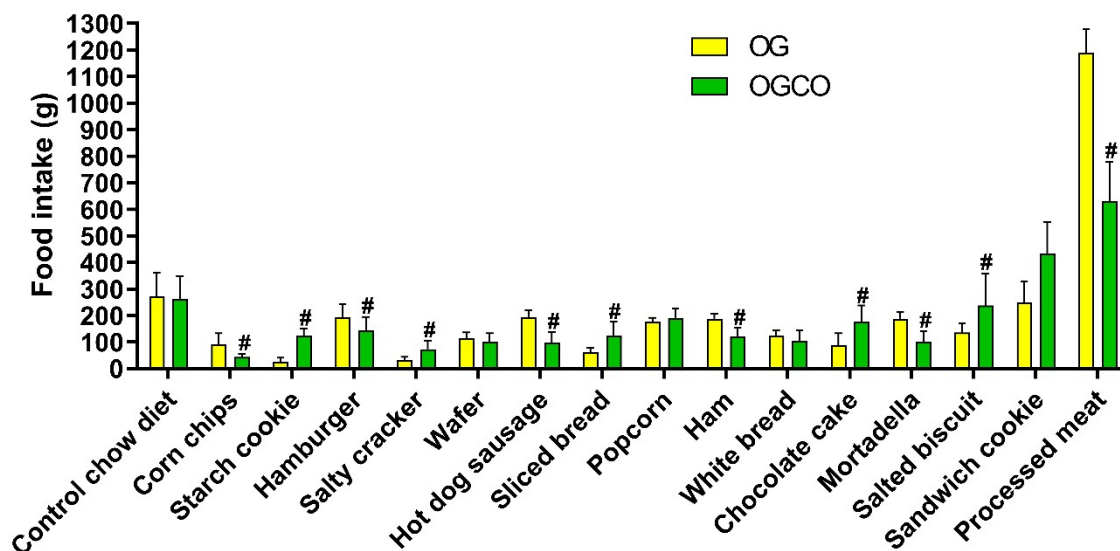


Fig. S2 Food preference of obese rats treated or not with E-VCO. One Way ANOVA, $p \leq 0.05$ Tukey's post hoc test. # Differed from OG. OG = obese group; OGCO = obese group treated with extra-virgin coconut oil.

Table S1. Fatty acids and phenolic profile quantified in extra virgin coconut oil (E-VCO) (Vasconcelos et al., 2022)

Fatty acids (%)	Extra virgin coconut oil (Mean \pm SD)
Caproic acid C 6:0	1.91 \pm 0.1
Caprylic acid C 8:0	46.92 \pm 0.89
Capric acid C 10:0	39.71 \pm 0.71
Lauric acid C12:0	5.74 \pm 0.12
Miristic acid C 14:0	1.93 \pm 0.05
Palmitic acid C16:0	1.06 \pm 0.05
Stearic acid C18:0	0.32 \pm 0.06
Arachidic acid C20:0	N.d.
Total saturated fatty acids (SFA %)	97.59 \pm 1.98
Myristoleic acid C14:1 n5c	0.15 \pm 0.01
Palmitoleic acid C16:1 n7	0.09 \pm 0.01
Oleic acid C18:1 n9c	1.83 \pm 0.1
Vaccenic acid C18:1 n11	0.01 \pm 0.01
Gadoleic acid C20:1 n9	0.02 \pm 0.01
Total monounsaturated fatty acids (MUFA %)	2.1 \pm 0.14
Linoleic acid C18:2 n6 c (ω 6)	0.31 \pm 0.01
Total polyunsaturated fatty acids (PUFA %)	0.31 \pm 0.01
Total medium chain fatty acids – MCFA (C ₆ -C ₁₂)	94.28
Total long chain fatty acids - LCFA (C ₁₄ -C ₂₄)	5.72
Phenolic compounds (mg/100 g)	Extra virgin coconut oil (Mean \pm SD)
Flavanol	
Catechin	1.06 \pm 0.15
Flavanone	
Naringenin	0.64 \pm 0.05
Flavonol	
Kampferol	0.59 \pm 0.03
Myricetin	2.29 \pm 0.08
Quercetin	3.35 \pm 0.08
Rutin	8.99 \pm 0.53
Total flavonoids	16.92
Hydroxybenzoic acids	
3,4-dihydroxybenzoic acid	4.79 \pm 0.03
4-hydroxybenzoic acid	1.06 \pm 0.01
Ellagic acid	1.22 \pm 0.02
Salicylic acid	3.83 \pm 0.03
Vanillic acid	1.28 \pm 0.05
Hydroxycinnamic acids	
Trans-cinnamic acid	0.59 \pm 0.03
Caffeic acid	2.45 \pm 0.01
p-coumaric acid	3.19 \pm 0.02
Synapic acid	1.91 \pm 0.09
Total non-flavonoids	20.32
Total phenolic compounds	37.24

SD = standard deviation of the mean; MUFA = Total monounsaturated fatty acids; PUFA = Total polyunsaturated fatty acids; MCFA = Total medium chain fatty acids; LCFA = Total long chain fatty acids.

Table S2. Nutritional composition of foods offered in cafeteria diet to the obese group (OG) and obese group treated with E-VCO (OGCO) (Tavares et al., 2021).

Foods offered	Value per 100 g of food						
	kcal	Carb (g)	Prot (g)	Fat (g)	SFA (g)	Fibre (g)	Sodium (mg)
Corn chips	504.00	60.00	7.60	23.20	5.20	536.00	1,072.00
Starch cookie	426.66	70.00	5.00	11.66	2.33	2.00	186.66
Hamburger	281.25	3.75	18.75	21.87	6.37	1.62	581.25
Salty cracker	446.67	66.67	10.67	15.33	6.33	0.00	580.00
Wafer	540.00	63.33	5.00	29.66	15.33	0.00	133.33
Hot dog sausage	413.33	0.00	24.33	26.66	8.33	1.20	1,787.00
Sliced bread	1,020.00	48.00	7.60	2.60	0.60	2.60	384.00
Popcorn	400.00	91.11	6.66	0.66	0.00	0.00	0.00
Ham	93.33	2.00	14.66	3.00	21.00	0.00	1,100.00
White bread	352.00	72.00	8.40	2.80	1.60	1.60	600.00
Chocolate cake	345.00	50.00	4.25	14.25	4.00	0.00	190.00
Bologna	311.00	3.05	16.37	25.39	9.51	0.00	1,246.00
Salted biscuit	488.88	62.22	5.77	24.44	9.77	2.64	688.88
Sandwich biscuit	396.66	53.33	6.33	17.66	7.33	2.66	263.33
Processed meat	195.00	10.00	12.00	12.00	6.00	0.00	982.50
Control chow diet	320.00	75.80	27.35	28.77	0.00	0.00	0.001
Total	6,533.78	731.26	180.74	259.95	103.70	550.32	9,794.95

kcal = calories; Carb = carbohydrates; Prot = proteins; SFA = saturated fatty acids.

Table S3. Nutritional composition of the control and cafeteria diets.

Composition	Diets	
	Control	Cafeteria
Energy value (kcal/g)	3.1	4.1
Carbohydrate (kcal %)	57	48
Protein (kcal %)	28	14
Total fat (kcal %)	15	38

kcal = calories; g = grams