

Dietary N-acylethanolamines are bioaccessible in the small intestine and modulate postprandial hormonal responses: a randomized crossover trial in subjects with ileostomy

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Supplementary material

Supplementary Table 1: Concentrations of Linoleylethanolamide (LEA), Palmitoylethanolamide (PEA), Oleoylethanolamide (OEA), N-acylethanolamines and N-acylphosphatidylethanolamines in each food item provided at breakfast.

| HNM | LEA (µg) | OEA (µg) | PEA (µg) | NAEs (µg) | NAPEs (mg) |
|-----------------------------------|-----------------|-----------------|-----------------|------------------|-------------------|
| White bread (46 g) | 24.1 | 1.4 | 2.1 | 27.6 | 20.2 |
| Milk (150 mL) | 0.1 | 0.3 | 0.6 | 0.9 | 0.2 |
| Jam (10 g) | 0.1 | 0.1 | 0.9 | 1.1 | / |
| Cocoa powder (15 g) | 12.1 | 41.4 | 1.9 | 55.4 | 12.0 |
| Whole-grain cereals (30 g) | 33.5 | 3.9 | 1.6 | 39.0 | 25.4 |
| LNM | | | | | |
| Whole-grain bread (80 g) | 4.0 | 0.5 | 0.9 | 5.4 | 11.3 |
| Milk (150 mL) | 0.1 | 0.3 | 0.6 | 0.9 | 0.2 |
| Butter (5 g) | 0.5 | 0.6 | 0.1 | 1.1 | 0.02 |
| Instant coffee (2g) | 0.1 | / | / | 0.1 | 0.0012 |
| Jam (10 g) | 0.1 | 0.1 | 0.9 | 1.1 | / |
| Dried apples (30 g) | 1.1 | 0.1 | 0.2 | 1.4 | 0.6 |

Supplementary Table 2: List of food items provided during the buffet meal.

| Food Item | Quantity (g) |
|-----------------------|---------------------|
| Cooked Sliced Chicken | 200 |
| Philadelphia | 110 |
| Tuna | 112 |
| Peperami | 45 |
| Crackers | 48 |
| Crisps | 50 |
| Salad | 180 |
| White Bread | 200 |
| Hummus | 200 |
| Yogurt | 240 |
| Digestive Biscuits | 100 |
| Banana | n=2 |
| Apple | n=2 |
| Butter | 30 |
| Mayonnaise | 27 |

Supplementary Table 3: Acquisition parameters used for the LC-MS/MS analysis.

| | Precursor ion [M+H] ⁺ m/z | Precursor ion [M+H] ⁺ m/z | DP ^g | CE ^h |
|----------------------------|---|---|-----------------|-----------------|
| AEA ^a | 348.0 | 62 | 35 | 35 |
| OEA ^b | 326.0 | 62 | 60 | 35 |
| LEA ^c | 324.0 | 62 | 60 | 30 |
| PEA ^d | 300.0 | 62 | 60 | 30 |
| 2-AG ^e | 379.4 | 287.3 | 38 | 15 |
| | | 203.5 | | 25 |
| AEA-d8 ^f | 356.5 | 63.2 | 50 | 31 |
| | | 209.3 | | 18 |

^a AEA, Arachidonylethanolamide;

^b OEA, Oleoylethanolamide;

^c LEA, Linolethanolamide;

^d PEA, Palmitoylethanolamide;

^e 2-AG, 2-Arachidonoylglycerol;

^f AEA-d8, Arachidonylethanolamide d8;

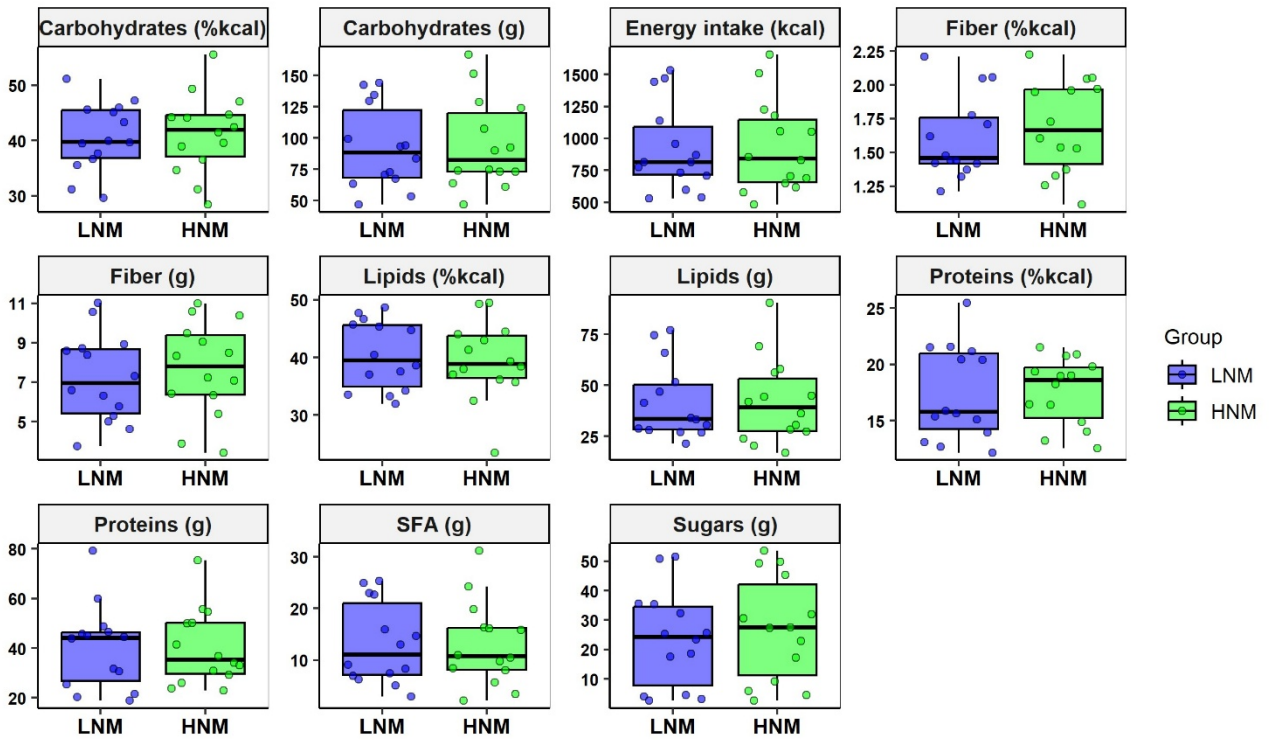
^g CE, Collision energy;

^h DP, Declustering potential.

Supplementary Table 4: Psychometric characteristics of ileostomy participants (n=14).

| | |
|---|------------|
| QUALITY OF LIFE-PCS | 57.7 ± 0.5 |
| QUALITY OF LIFE-MCS | 43.1 ± 4.5 |
| TFEQ RESTRAINT | 6.3 ± 1.2 |
| TFEQ DISINHIBITION | 4.7 ± 1.4 |
| TFEQ HUNGER | 5.9 ± 1.3 |
| Depression | |
| Normal/mild, n (%) | 12 (85.7) |
| Moderate/severe/extremely severe, n (%) | 2 (14.3) |
| Anxiety | |
| Normal/mild, n (%) | 10 (71.4) |
| Moderate/severe/extremely severe, n (%) | 4 (28.6) |
| Stress | |
| Normal/mild, n (%) | 12 (85.7) |
| Moderate/severe/ extremely severe, n (%) | 2 (14.3) |
| SHPS | |
| Normal hedonic tone, n (%) | 13 (92.8) |
| Abnormal hedonic tone, n (%) | 1 (7.1) |
| Power of food scale-Food available | 12.1 ± 5.8 |
| Power of food scale-Food present | 10.6 ± 4.9 |
| Power of food scale-Food tasted | 11.6 ± 3.6 |

Data are expressed as means ± SEM.



Supplementary Fig. 1: Energy intake and nutrition composition resulting from the buffet meal test 8h post-consumption of HNM (High-NAEs meal, in green) and LNM (Low-NAEs meal, in blue). SFA, Saturated fatty acids.