# SUPPLEMENTARY TABLES

**Table S1**. Home cooking Quality Index Questionnaire used as a screening tool in the SUKALMENA-InAge study.

| HOMECOOKING QUALITY INDEX | YES | NO |
|---|---|---|
| 1. Do you eat home-cooked food at least 10 times a week (lunch or dinner)? | 1 | 0 |
| 2. Do you eat food prepared at home using techniques such as steaming or papillote at least once a week? | 1 | 0 |
| 3. Do you eat vegetables prepared at home using techniques such as poaching, stewing or boiling? | 1 | 0 |
| 4. Do you eat meat or fish prepared at home using techniques such as stewing, boiling or pan-frying? | 1 | 0 |
| 5. When baking, frying or pan-frying, do you usually leave the food toasted? | 0 | 1 |
| 6. Do you eat fried foods 2 times or less per week? | 1 | 0 |
| 7. Do you eat food prepared at home with techniques such as grilling or roasting less than once a week? | 1 | 0 |
| 8. Do you marinate meat or fish at least once a week? | 1 | 0 |
| 9. Do you prefer to cook with extra virgin olive oil? | 1 | 0 |
| 10. Do you plan weekly lunches and/or dinners at home? | 1 | 0 |
| 11. Do you preferably consume seasonal and/or local food? | 1 | 0 |
| 12. Do you include nuts or seeds in your food preparations (salads/sauces) at least once a month? | 1 | 0 |
| 13. Do you make homemade pastries with olive oil, wholemeal flour or fruit? | 1 | 0 |
| 14. Do you use dried fruit as a sugar substitute in your home baking? | 1 | 0 |
| 15. Do you use whole grains (bread/pasta/rice/flour) rather than refined grains (bread/pasta/rice/flour)? | 1 | 0 |
| 16. Do you use vegetables instead of processed meats (sausages, black pudding, bacon) when preparing legumes? | 1 | 0 |
| 17. Do you practice batch cooking (cooking on one day for several days of the week)? | 1 | 0 |
| 18. Do you prepare dishes without salt at least once a day? | 1 | 0 |
| 19. Do you use spices at least once a day? | 1 | 0 |
| Summary | | |
| Total score | | |

*Scoring: 0-19 points.*
*< 10 points: candidate for study*
*≥ 10 points: NO candidate*

**Table S2**. Baseline characteristics according to the intervention groups in the SUKALMENA-InAge study.

| | | Mean (SD) | | *P* value |
|---|---|---|---|---|
| | | NIG | CIG | |
| n | | 29 | 33 | |
| Sex, n (%)[a] | | | | 0.284 |
| Women | | 11 (37.9) | 17 (51.5) | |
| Men | | 18 (62.1) | 16 (48.5) | |
| Age (years)[b] | | 60.7 (4.8) | 61.64 (4.6) | 0.799 |
| Civil status, married n (%)[a, c, d] | | 20 (74.1) | 27 (90.0) | 0.114 |
| Education, n (%)[a, c, d] | | | | 0.536 |
| No university | | 14 (51.9) | 18 (60.0) | |
| University | | 13 (48.2) | 12 (40.0) | |
| Working status, n (%) [c, d, e] | | | | 0.418 |
| Working | | 14 (51.9) | 11 (36.7) | |
| Retired | | 12 (44.4) | 15 (50.0) | |
| Other | | 1 (3.7) | 4 (13.3) | |
| Smoking status, n (%)[a, c, d] | | | | 0.695 |
| Never | | 10 (37.0) | 12 (40.0) | |
| Former | | 15 (55.6) | 14 (46.7) | |
| Current | | 2 (7.4) | 4 (13.3) | |
| Mediterranean Diet Adherence Screener (MEDAS). Total score (0-14) [b, d, f] | | 8.3 (2.4) | 7.6 (2.2) | 0.454 |
| Score in each MEDAS items (%) [a, d, f] | Criterion | | | |
| Do you use olive oil as main cooking fat? | Yes | 89.7 | 97.0 | 0.242 |
| How much olive oil do you consume in a day (including oil for frying, on salads, between others)? | >4 tablespoon | 79.3 | 84.9 | 0.569 |
| How many servings of vegetables do you eat per day? (1 serving = 200g) | ≥2 | 27.6 | 27.3 | 0.978 |
| How many fruit portions do you eat per day? | ≥3 | 35.7 | 24.2 | 0.328 |
| How many servings of red meat, hamburger, or processed meat do you eat per day? (1 portion = 100-150g) | <1 | 65.5 | 81.8 | 0.143 |

| | | | | |
|---|---|---|---|---|
| How many servings of butter, margarine, or cream do you eat per day? (1 serving = 12g) | <1 | 96.6 | 87.9 | 0.211 |
| How many sweet beverages do you drink per day? (1 serving = 12g) | <1 | 89.7 | 87.9 | 0.825 |
| How much wine do you drink per week? (glasses) | ≥7 | 27.6 | 24.2 | 0.764 |
| How many servings of legumes do you eat per week? (1 portion = 150g) | ≥3 | 31.0 | 3.0 | 0.003 |
| How many servings of fish or shellfish do you eat per week? (1 portion = 150/200g) | ≥3 | 58.6 | 48.5 | 0.425 |
| How many times per week do you eat commercial sweets or pastries (not homemade)? | <2 | 61.5 | 51.5 | 0.441 |
| How many servings of nuts do you eat per week? (1 potion = 30g) | ≥3 | 41.4 | 39.4 | 0.874 |
| Do you preferably eat chicken, turkey, or rabbit meat instead of beef, pork, hamburger, or sausage? | Yes | 62.1 | 66.7 | 0.706 |
| How many times per week do you eat vegetables, pasta, rice or other dishes seasoned with tomato, garlic, onion or leek sauce cooked in olive oil (sauté)? | >2 | 72.4 | 33.3 | 0.002 |
| Weight (kg) [b, h, i] | | 87.3 (12.5) | 85.8 (15.2) | 0.429 |
| BMI (kg/m²) [g, h, i] | | 30.5 (3.1) | 29.8 (3.2) | 0.165 |
| Waist (cm) [b, h, i] | | 106.6 (10.3) | 106.0 (8.1) | 0.441 |
| Hip (cm) [g, h, i] | | 109.4 (8.9) | 107.9 (7.9) | 0.778 |
| Waist/hip ratio [b, h, i] | | 1.0 (0.1) | 1.0 (0.1) | 0.697 |
| Fat mass (kg) [b, h, i] | | 25.2 (8.3) | 23.4 (7.4) | 0.407 |
| Fat mass (%) [b, h, i] | | 29.0 (9.0) | 27.6 (8.8) | 0.745 |
| Fat-free mass (kg) [b, h, i] | | 61.4 (14.0) | 62.4 (14.9) | 0.888 |
| Fat-free mass (%) [b, h, i] | | 71.0 (9.0) | 72.4 (8.8) | 0.742 |
| SBP (mmHg) [b, i, j] | | 137.3 (17.9) | 141.9 (18.8) | 0.522 |
| DBP (mmHg) [b, i, j] | | 85.6 (9.0) | 88.6 (10.3) | 0.449 |
| Glucose (mg/dL) [g, k, l] | | 94.6 (8.8) | 102.8 (22.3) | 0.667 |
| Insulin (mcU/mL) [g, k, l] | | 9.3 (5.1) | 8.6 (4.7) | 0.135 |
| HOMA-IR [g, k, l] | | 2.2 (1.2) | 2.3 (1.7) | 0.254 |

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|---|---|---|---|
| Total cholesterol (mg/dL) [b, k, l] | 218.9 (44.8) | 209.7 (42.4) | 0.470 |
| HDLc (mg/dL) [g, k, l] | 59.0 (13.3) | 58.7 (16.3) | 0.847 |
| LDLc (mg/dL) [b, k, l] | 136.2 (35.4) | 125.7 (34.7) | 0.439 |
| TG (mg/dL) [g, k, l] | 119.4 (44.8) | 126.7 (63.6) | 0.192 |
| LDL/HDL [b, k, l] | 2.3 (0.6) | 2.3 (0.8) | 0.533 |
| TG/HDL [g, k, l] | 2.1 (1.0) | 2.4 (1.6) | 0.347 |
| CRP (pg/dL) [g, k, l] | 0.3 (0.2) | 0.3 (0.3) | 0.814 |
| TNF-$\alpha$ (mg/dL) [g, k, l] | 9.8 (4.4) | 8.2 (4.2) | 0.132 |
| **Global confidence about cooking at home** [b, d, f, m] | 129.2 (32.3) | 131.7 (21.7) | 0.799 |
| Prepare food for cooking by chopping, mixing and stirring [d, f, g] | 7.5 (2.5) | 7.7 (2.0) | 0.960 |
| Use different methods to cook foods such as boiling [d, f, g] | 7.9 (1.8) | 7.5 (2.3) | 0.500 |
| Use different equipment for cooking [d, f, g] | 8.0 (2.1) | 7.7 (1.8) | 0.164 |
| Preserve food [d, f, g] | 6.5 (2.5) | 6.2 (2.9) | 0.830 |
| Know when your food is cooked [b, d, f] | 6.1 (3.0) | 6.7 (2.2) | 0.252 |
| Handle, store and prepare foods safely [f, g, n] | 6.7 (2.8) | 7.9 (1.9) | 0.170 |
| Cook grains, for example, rice, pasta, etc [d, f, g] | 7.9 (2.1) | 7.8 (2.3) | 0.874 |
| Cook vegetables [d, f, g] | 8.5 (1.5) | 8.3 (1.6) | 0.799 |
| Cook meat, fish, or poultry [d, f, g] | 8.3 (1.7) | 7.9 (1.4) | 0.316 |
| Prepare a balance meal [b, d, f] | 6.6 (2.1) | 7.3 (2.0) | 0.129 |
| Prepare more than one food item for a meal at the same time [d, f, g] | 7.3 (2.7) | 7.5 (1.9) | 0.954 |
| Compare food prices to save money [f, g, n] | 6.0 (3.3) | 6.1 (3.3) | 0.913 |
| Read the nutrition information on food labels [d, f, g] | 5.9 (2.6) | 6.8 (2.8) | 0.081 |
| Plan meals for the week [b, d, h] | 5.1 (2.7) | 4.9 (2.9) | 0.563 |
| Read recipes [d, f, g] | 7.2 (2.6) | 7.6 (1.6) | 0.903 |
| Use substitutions in recipes if I don't have a specific ingredient [d, f, g] | 6.6 (3.1) | 7.1 (2.0) | 0.694 |

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| Change recipes to make them healthier [d, f, g] | | 6.7 (2.7) | 7.3 (2.2) | 0.246 |
| Use leftovers to create another meal [f, g, n] | | 7.0 (2.7) | 7.0 (2.1) | 0.391 |
| **Global attitude about cooking at home** [d, f, g, m] | | 142.9 (23.4) | 149.0 (13.6) | 0.454 |
| I do NOT like to cook because it takes too much time [d, f, g] | | 7.3 (2.9) | 8.2 (2.5) | 0.457 |
| Preparing meals at home would NOT improve my health [d, f, g] | | 8.4 (2.8) | 8.8 (2.0) | 0.869 |
| Cooking meals is a good use of my time [f, g, n] | | 7.6 (2.0) | 7.5 (2.4) | 0.912 |
| I enjoy cooking [d, f, g] | | 6.9 (2.7) | 8.0 (1.8) | 0.367 |
| It is important to know how to prepare food [d, f, g] | | 8.9 (2.2) | 8.7 (2.0) | 0.595 |
| Cooking is fun [d, f, g] | | 7.4 (2.2) | 7.9 (1.6) | 0.596 |
| I do NOT like to prepare meals at home because it costs too much money [d, f, g] | | 8.4 (2.7) | 9.7 (0.6) | 0.059 |
| It is NOT important that I know how to cook [d, f, g] | | 8.3 (2.9) | 8.3 (2.7) | 0.866 |
| Cooking is interesting [d, f, g] | | 8.4 (2.0) | 8.8 (1.2) | 0.386 |
| Meals made at home are affordable [d, f, g] | | 8.2 (2.5) | 8.7 (1.3) | 0.493 |
| It is important to eat the recommended 3 portions of fruit each day [d, f, g] | | 8.5 (1.5) | 7.8 (2.2) | 0.365 |
| It is important to eat the recommended 2 portions of vegetables each day [d, f, g] | | 8.3 (1.7) | 7.7 (2.0) | 0.234 |
| It is easy to prepare meals [d, f, g] | | 7.3 (2.5) | 8.4 (1.3) | 0.178 |
| Cooking is frustrating [d, f, g] | | 8.7 (1.7) | 9.0 (1.5) | 0.552 |
| I like trying new recipes [d, f, g] | | 8.0 (2.1) | 8.0 (2.0) | 0.822 |
| It is too much work to cook [b, d, f] | | 5.7 (2.6) | 6.5 (2.4) | 0.174 |
| Making meals at home helps me to eat more healthfully [d, f, g] | | 8.6 (1.7) | 8.4 (1.7) | 0.810 |
| I find cooking tiring [d, f, g] | | 8.4 (2.0) | 8.9 (0.9) | 0.837 |
| Weekly meal planning, n (%) [a, d, f] | Planification | 12 (41.4) | 13 (39.4) | 0.874 |
| In charge of weekly grocery shopping, n (%) [a, d, f] | Yes | 22 (75.9) | 33 (100.0) | 0.003 |
| Cook, n (%) [a, d, f] | Yes | 28 (96.6) | 32 (97.0) | 0.926 |
| Cook days per week n (%) [a, d, f] | ≥6 days | 16 (57.1) | 22 (68.8) | 0.352 |

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|---|---|---|---|---|
| Cook hours per week, n (%)[a, d, f] | >7 hours | 13 (46.4) | 22 (68.8) | 0.080 |
| Use of culinary techniques (times per week) | | | | |
| Baking/Roasting [d, f, g] | | 2.9 (1.9) | 2.8 (2.9) | 0.697 |
| Pan frying [d, f, g] | | 3.9 (2.8) | 4.2 (3.2) | 0.713 |
| Grilling (barbecue) [d, f, g] | | 0.3 (0.7) | 0.1 (0.4) | 0.181 |
| Frying [d, f, g] | | 2.9 (1.8) | 2.3 (3.0) | 0.133 |
| Battered/Breaded and fried [d, f, g] | | 0.7 (0.8) | 1.2 (1.7) | 0.310 |
| Boiling [d, f, g] | | 10.4 (4.3) | 7.7 (3.3) | 0.009 |
| Stewing [d, f, g] | | 0.7 (1.0) | 0.9 (1.2) | 0.604 |
| Steaming [d, f, g] | | 0.4 (1.0) | 0.8 (1.5) | 0.687 |
| Microwaving [d, f, g] | | 0.4 (0.8) | 0.5 (1.4) | 0.430 |
| Sweat [d, f, g] | | 1.2 (2.0) | 1.1 (1.4) | 0.364 |
| Raw (vegetables) [d, f, g] | | 3.9 (2.4) | 4.2 (2.6) | 0.875 |
| Omelet (eggs) [d, f, g] | | 2.1 (1.4) | 1.8 (1.2) | 0.442 |
| Use of food to cook (times per week) | | | | |
| Vegetables [d, f, g] | | 9.2 (3.9) | 9.2 (4.6) | 0.667 |
| Fruit [d, f, g] | | 0.5 (1.4) | 0.1 (0.3) | 0.069 |
| Legumes [b, d, f] | | 1.9 (1.3) | 1.4 (0.8) | 0.095 |
| Cereals [d, f, g] | | 2.0 (1.4) | 1.5 (0.9) | 0.302 |
| Potato [d, f, g] | | 3.2 (1.5) | 2.5 (2.0) | 0.074 |
| Egg [d, f, g] | | 4.4 (2.0) | 4.0 (1.9) | 0.369 |
| Fish [b, d, f] | | 3.9 (1.8) | 3.6 (1.5) | 0.824 |
| White meat [b, d, f] | | 2.8 (1.2) | 3.2 (2.0) | 0.649 |
| Red meat [d, f, g] | | 2.3 (1.5) | 2.1 (1.6) | 0.560 |

*BMI, Body mass index; CIG, Culinary intervention group; CRP, C reactive protein; DBP, Diastolic blood pressure; HDLc, High density lipoprotein cholesterol; HOMA-IR, Homeostatic model assessment-insulin resistance; LDLc, Low density lipoprotein cholesterol; NIG, Nutritional intervention group; SBP, Systolic blood pressure; SD, Standard deviation; TG, Triglycerides; TNF-α, Tumor necrosis factor-alpha.*

[a] Difference in baseline between groups for categorical variables. $\chi^2$.
[b] Difference in baseline between groups for continuous variables with normal distribution. T-student test.
[c] In the NIG n=27.
[d] In the CIG n=30.
[e] Baseline difference between groups for categorical variables if one category < 5%. Fisher's exact test.
[f] In the NIG n=26.
[g] Difference in baseline between groups for continuous variables without normal distribution. Mann-Whitney *U* test.
[h] In the NIG n=25.
[i] In the CIG n=31.
[j] In the NIG n=24.
[k] In the NIG n=23.
[l] In the CIG n=26.
[m] Values on a scale of 0-180 for the global and of 0-10 for each individual item.
[n] In the CIG n=29.

**Table S3.** Mediterranean diet adherence at baseline and after 4-week intervention in participants of the SUKALMENA-InAge study.

| Mediterranean Diet Adherence Screener (MEDAS) items | | Within-group changes (95 % CI) | | Difference of changes between groups (95 % CI) |
|---|---|---|---|---|
| | | NIG (n=26) | CIG (n=30) | |
| Do you use olive oil as main cooking fat? | Yes | 5.0 (-2.6 to 12.7) | 3.2 (-3.0 to 9.4) | -1.8 (-11.7 to 8.0) |
| How much olive oil do you consume in a day (including oil for frying, on salads, between others)? | >4 tablespoon | 16.5 (2.8 to 30.2)* | 5.5 (-9.8 to 20.8) | -11.0 (-31.6 to 9.5) |
| How many servings of vegetables do you eat per day? (1 serving = 200g) | ≥2 | 13.9 (-10.2 to 38.0) | 26.2 (7.9 to 44.6)** | 12.3 (-18.0 to 42.6) |
| How many fruit portions do you eat per day? | ≥3 | 3.5 (-10.0 to 16.9) | 8.2 (-8.8 to 25.3) | 4.8 (-16.9 to 26.5) |
| How many servings of red meat, hamburger, or processed meat do you eat per day? (1 portion = 100-150g) | <1 | 10.9 (-12.5 to 34.4) | 10.9 (-2.8 to 24.7) | -0.04 (-27.2 to 27.2) |
| How many servings of butter, margarine, or cream do you eat per day? (1 serving = 12g) | <1 | 3.5 (-3.3 to 10.1) | 12.1 (0.9 to 23.4)* | 8.7 (-4.4 to 21.7) |
| How many sweet beverages do you drink per day? (1 serving = 12g) | <1 | 7.0 (-2.8 to 16.7) | 9.9 (0.3 to 19.6)* | 2.9 (-10.8 to 16.7) |
| How much wine do you drink per week? (glasses) | ≥7 | 6.5 (-4.0 to 17.0) | 0.6 (-12.4 to 13.7) | -5.9 (-22.6 to 10.9) |
| How many servings of legumes do you eat per week? (1 portion = 150g) | ≥3 | -7.9 (-28.7 to 12.9) | 37.4 (19.0 to 55.8)*** | 45.3 (17.5 to 73.1)** |
| How many servings of fish or shellfish do you eat per week? (1 portion = 150/200g) | ≥3 | -1.6 (-21.6 to 18.3) | -1.4 (-25.5 to 22.8) | 0.2 (-31.1 to 31.5) |
| How many times per week do you eat commercial sweets or pastries (not homemade)? | <2 | 5.3 (-14.2 to 24.7) | 19.0 (-2.2 to 40.2) | 13.7 (-15.1 to 42.5) |
| How many servings of nuts do you eat per week? (1 potion = 30g) | ≥3 | 2.2 (-17.6 to 22.1) | 18.9 (0.4 to 37.4)* | 16.7 (-10.5 to 43.8) |
| Do you preferably eat chicken, turkey, or rabbit meat instead of beef, pork, hamburger, or sausage? | Yes | 17.7 (2.7 to 32.7)* | 15.7 (3.5 to 27.9)* | -2.0 (-21.3 to 17.4) |
| How many times per week do you eat vegetables, pasta, rice or other dishes seasoned with tomato, garlic, onion or leek sauce cooked in olive oil (*sofrito*)? | >2 | -30.1 (-55.4 to -4.8)* | 0.0 (0.0 to 0.0) | 30.1 (-4.4 to 64.6) |

*CI, Confidence intervals; CIG, Culinary intervention group; NIG, Nutritional intervention group.*
*$p$<0·05, **$p$<0·01, ***$p$<0·001.

**Table S4**. Energy and nutrient intake at baseline and after 4-week intervention according to the intervention groups in the SUKALMENA-InAge study.

| | Within-group changes (95 % CI) | | Difference of changes between groups (95 % CI) |
|---|---|---|---|
| | NIG (n=12) | CIG (n=14) | |
| **Total energy, kcal/day** | -325.1 (-588.6 to -61.5)* | -211.2 (-530.5 to 108.2) | 113.9 (-300.1 to 528.0) |
| **Macronutrients** | | | |
| Carbohydrate intake, % of TEI | -1.8 (-5.1 to 1.5) | -7.1 (-9.7 to -4.4)*** | -5.3 (-9.5 to -1.1)* |
| Glycemic load | -21.8 (-43.8 to 0.3) | -43.7 (-70.3 to -17.0)** | -21.9 (-56.5 to 12.6) |
| Glycemic index | 0.3 (-2.2 to 2.7) | -5.2 (-8.6 to -1.9)** | -5.5 (-9.7 to -1.3)* |
| Protein intake, % of TEI | -0.4 (-1.5 to 0.6) | -0.6 (-1.8 to 0.7) | -0.2 (-1.8 to 1.5) |
| Animal protein, g/day | -12.8 (-24.9 to -0.7)* | -9.3 (-15.5 to -3.0)** | 3.5 (-10.1 to 17.2) |
| Vegetal protein, g/day | -3.4 (-7.2 to 0.5) | -4.3 (-11.0 to 2.4) | -0.9 (-8.7 to 6.8) |
| Fat intake, % of TEI | 2.7 (-0.3 to 5.8) | 6.8 (3.7 to 9.8)*** | 4.1 (-0.3 to 8.4) |
| SFA intake, % of TEI | -0.3 (-1.6 to 1.1) | 0.3 (-0.6 to 1.2) | 0.6 (-1.0 to 2.2) |
| MUFA, % of TEI | 2.7 (0.1 to 5.3)* | 5.7 (3.1 to 8.2)*** | 3.0 (-0.7 to 6.6) |
| PUFA, % of TEI | -0.2 (-0.9 to 0.6) | 1.0 (0.3 to 1.7)** | 1.2 (0.2 to 2.2)* |
| Cholesterol, mg/day | -47.3 (-203.4 to 108.7) | -50.0 (-119.7 to 19.7) | -2.6 (-173.5 to 168.3) |
| Fiber, g/day | -0.8 (-4.2 to 2.6) | -1.2 (-6.4 to 4.0) | -0.4 (-6.7 to 5.8) |
| Alcohol intake, g/day | -2.5 (-5.6 to 0.5) | 3.1 (-6.1 to 12.3) | 5.6 (-4.1 to 15.3) |
| Na, mg/day | -816.1 (-1210.2 to -421.9)*** | -552.2 (-1012.1 to -92.3)* | 263.9 (-341.9 to 869.6) |

*CI, Confidence intervals; CIG, Culinary intervention group; MUFA, Monounsaturated fatty acids; NIG, Nutritional intervention group; PUFA, Polyunsaturated fatty acids; SFA, Saturated fatty acids; TEI, Total energy intake.*
*$p$<0·05, **$p$<0·01, ***$p$<0·001.

**Table S5**. Food consumption at baseline and after 4-week intervention according to the intervention groups in the SUKALMENA-InAge study.

| | Within-group changes (95 % CI) | | Difference of changes between groups (95 % CI) |
|---|---|---|---|
| | NIG (n=12) | CIG (n=14) | |
| Vegetables, g/day | 50.8 (-53.9 to 155.6) | 20.4 (-41.1 to 82.0) | -30.4 (-151.9 to 91.0) |
| Fruits, g/day | 9.1 (-72.1 to 90.2) | -40.0 (-121.6 to 41.7) | -49.0 (-164.1 to 66.1) |
| Cereals and grains, g/day | -45.2 (-82.1 to -8.4)* | -65.6 (-131.4 to 0.2) | -20.4 (-95.8 to 55.0) |
| Potatoes, g/day | -40.3 (-76.5 to -4.2)* | -76.3 (-148.6 to -4.0)* | -36.0 (-116.9 to 44.8) |
| Legumes, g/week | 33.3 (-4.9 to 71.5) | 58.1 (-5.6 to 121.7) | 24.8 (-49.4 to 99.0) |
| Nuts, g/week | -15.9 (-72.8 to 41.0) | 25.7 (-35.9 to 87.2) | 41.5 (-42.3 to 125.4) |
| Dairy products, g/week | -554.4 (-1325.0 to 216.1) | -337.3 (-878.8 to 204.2) | 217.1 (-724.7 to 1158.9) |
| Meat, g/week | -103.4 (-325.0 to 118.3) | -234.7 (-363.0 to -106.4)*** | -131.3 (-387.5 to 124.8) |
| Lean meat, g/week | 61.9 (-49.6 to 173.3) | -5.7 (-95.5 to 84.2) | -67.5 (-210.7 to 75.6) |
| Red meat, g/week | -172.7 (-341.6 to -3.8)* | -216.8 (-340.0 to -93.6)** | -44.2 (-253.2 to 164.9) |
| Fish | -94.5 (-240.6 to 51.6) | -51.9 (-222.5 to 118.8) | 42.7 (-182.0 to 267.3) |
| White fish, g/week | -44.6 (-172.3 to 83.2) | -37.5 (-177.8 to 102.8) | 7.1 (-182.7 to 196.8) |
| Blue fish, g/week | -53.2 (-138.5 to 32.1) | -10.3 (-85.3 to 64.8) | 42.9 (-70.7 to 156.6) |
| Factory-baked goods, g/week | -49.0 (-149.5 to 51.4) | -134.9 (-229.3 to -40.5)** | -85.8 (-223.7 to 52.0) |
| Eggs, g/day | -3.2 (-39.2 to 32.8) | 2.0 (-13.5 to 17.5) | 5.2 (-34.0 to 44.4) |
| Olive oil, g/day | 1.7 (0.8 to 2.6)*** | 0.1 (-1.0 to 1.3) | -1.6 (-3.0 to -0.1)* |

*CI, Confidence intervals; CIG, Culinary intervention group; NIG, Nutritional intervention group.*
*$p$<0·05, **$p$<0·01, ***$p$<0·001.

**Table S6**. The use of culinary techniques and food to cook at baseline and after 4-week intervention according to the intervention groups in the SUKALMENA-InAge study.

| Use of culinary techniques (times per week) | Within-group changes (95 % CI) | | Difference of changes between groups (95 % CI) |
|---|---|---|---|
| | NIG (n=26) | CIG (n=30) | |
| Baking/Roasting | -0.2 (-1.0 to 0.7) | -0.3 (-1.7 to 1.1) | -0.1 (-1.8 to 1.5) |
| Pan frying | 0.5 (-0.5 to 1.4) | -1.2 (-2.1 to -0.2)* | -1.6 (-3.0 to -0.2)* |
| Grilling (barbecue) | -0.2 (-0.4 to 0.04) | 0.03 (-0.2 to 0.2) | 0.2 (-0.1 to 0.5) |
| Frying | -1.0 (-1.7 to -0.3)** | -1.5 (-2.2 to -0.7)*** | -0.5 (-1.5 to 0.6) |
| Battered/Breaded and fried | 0.04 (-0.4 to 0.4) | -0.8 (-1.4 to -0.3)** | -0.8 (-1.5 to -0.2)* |
| Boiling | 0.6 (-1.4 to 2.6) | 1.7 (0.1 to 3.4)* | 1.2 (-1.5 to 3.8) |
| Stewing | -0.2 (-0.6 to 0.2) | 0.1 (-0.7 to 0.8) | 0.2 (-0.6 to 1.1) |
| Steaming | 0.04 (-0.5 to 0.6) | -0.04 (-0.6 to 0.6) | -0.1 (-0.9 to 0.7) |
| Microwaving | -0.1 (-0.4 to 0.2) | 0.8 (0.02 to 1.6)* | 0.9 (0.1 to 1.8)* |
| Sweat | 0.001 (-0.9 to 0.9) | -0.1 (-0.8 to 0.6) | -0.1 (-1.3 to 1.0) |
| Raw (vegetables) | 0.1 (-1.0 to 1.2) | 0.5 (-0.7 to 1.6) | 0.4 (-1.2 to 2.0) |
| Omelet (eggs) | -0.1 (-0.9 to 0.7) | -0.3 (-0.8 to 0.1) | -0.2 (-1.2 to 0.7) |
| **Techniques associated with lower AGE formation** | 0.3 (-1.5 to 2.2) | 2.4 (0.01 to 4.9)* | 2.1 (-0.9 to 5.2) |
| **Techniques associated with a higher formation of AGE** | -0.8 (-2.4 to 0.8) | -3.7 (-5.8 to -1.5)** | -2.8 (-5.6 to -0.2)* |
| Vegetables | 0.9 (-1.0 to 2.7) | 1.7 (0.03 to 3.3)* | 0.8 (-1.6 to 3.3) |
| Fruit | -0.01 (-0.2 to 0.2) | 0.7 (-0.2 to 1.7) | 0.8 (-0.2 to 1.7) |
| Legumes | -0.2 (-0.7 to 0.3) | 0.5 (0.1 to 1.0)* | 0.7 (0.1 to 1.4)* |
| Cereals | -0.4 (-0.8 to 0.1) | 0.7 (-0.1 to 1.5) | 1.1 (0.2 to 2.0)* |
| Potato | -0.1 (-1.1 to 0.8) | -0.4 (-1.1 to 0.2) | -0.3 (-1.5 to 0.8) |
| Egg | -0.2 (-1.1 to 0.7) | -1.1 (-1.8 to -0.4)** | -0.8 (-2.0 to 0.3) |
| Fish | -0.2 (-0.7 to 0.3) | -1.1 (-2.0 to -0.2)* | -0.9 (-2.0 to 0.2) |
| White meat | 0.2 (-0.5 to 0.8) | -0.6 (-1.5 to 0.3) | -0.8 (-1.8 to 0.3) |
| Red meat | -0.6 (-1.1 to -0.02)* | -1.1 (-1.7 to -0.5)*** | -0.6 (-1.4 to 0.3) |

*AGE, Advanced glycation end products; CI, Confidence intervals; CIG, Culinary intervention group; NIG, Nutritional intervention group.*

*$p$<0·05, **$p$<0·01, ***$p$<0·001.

**Table S7**. AGE levels at baseline and 4-week changes according to the intervention groups in the SUKALMENA-InAge study.

| | **Within-group changes (95 % CI)** | | **Difference of changes between groups (95 % CI)** |
|---|---|---|---|
| | **NIG (n=23)** | **CIG (n=26)** | |
| Urine AGE-CML (ng/mL) | -11.8 (-30.2 to 6.7) | 6.8 (-4.5 to 18.2) | 18.6 (-3.1 to 40.3) |
| Serum AGE-CML (ng/mL) | -32.2 (-184.9 to 120.6) | -59.9 (-190.9 to 71.1) | -27.7 (-228.9 to 173.5) |
| RAGE (pg/mL) | -31.6 (-105.3 to 42.1) | -41.9 (-91.3 to 7.4) | -10.4 (-99.1 to 78.3) |
| | **NIG (n=25)** | **CNIG (n=31)** | |
| Skin AGE | 0.1 (-0.04 to 0.2) | -0.002 (-0.1 to 0.1) | -0.1 (-0.2 to 0.1) |

*AGE, Advanced glycation end products; AGE-CML, Advanced glycation end products-carboxy-methyl lysine; CI, Confidence intervals; CIG, Culinary intervention group; NIG, Nutritional intervention group; RAGE, Receptor for advanced glycation end products.*