**Supplementary Table 1.**

Modifications of the frailty phenotype in the Tromsø7 Study 2015-16

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|  | **Criteria for frailty by Fried et al. 2001**  | **Criteria for frailty in Tromsø7** |
| Weight loss | Self-reported, from the question “In the last year, have you lost more than 10 pounds unintentionally (i.e., not due to dieting or exercise)?”. If yes, then frail for weight loss criterion.Or, at follow up: >5% unintentional loss of body weight in prior year (by direct measurement of weight at follow-up).  | Self-reported, based on a question from the Malnutrition Universal Screening Tool: “Have you involuntary lost weight during the last 6 months?”. If yes, then frail for the weight loss criterion. |
| Exhaustion | Self-reported, based on two questions from the Center for Epidemiologic Studies Depression Scale:(a) I felt that everything I did was an effort(b) I could not get going.“How often in the last week did you feel this way?”0 = rarely or none of the time (<1 day)1 = some or a little of the time (1–2 days)2 = a moderate amount of the time (3–4 days)3 = most of the time.Answer 2 or 3 to either of these questions led to categorization as frail for the exhaustion criterion. | Self-reported, based on the Hopkins Symptoms Checklist 10: “Have you experienced any of this the last week: That everything is a struggle?”1 = No complaint2 = Little complaint3 = Pretty much4 = Very muchAnswer 3 or 4 led to categorization as frail by the exhaustion criterion. |
| Physical activity | Self-reported, based on the Minnesota Leisure Time Activity short questionnaire asking about walking, chores (moderately strenuous), mowing the lawn, raking, gardening, hiking, jogging, biking, exercise cycling, dancing, aerobics, bowling, golf, singles tennis, doubles tennis, racquetball, calisthenics, swimming. Kcals per week expended was calculated using standardized algorithm. The lowest 20% was identified for each sex.*Frailty cut-off for physical activity:**Men*: <383 kcal of physical activity per week*Women*: <270 kcal of physical activity per week | Self-reported, based on Saltin & Grimby’s Physical Activity Level Scale. Describe your exercise and physical exertion in leisure time over the last year:1 = Reading, watching TV/screen or other sedentary activity?2 = Walking, cycling or other forms of exercise at least 4 hours a week?3 = Participation in recreational sports, heavy gardening, snow shovelling etc. at least 4 hours a week?Answer 1 led to categorization as frail for the physical activity criterion. |
| Walking speed | Time to Walk (s) 15 feet at usual pace. Stratified by sex and height (gender-specific cut-off at medium height). Lowest 20% were identified, resulting in the following cut-off for the walking speed criterion of frailty:*Men Cut-off (s):*Height <173 cm >7 secondsHeight >173 cm >6 seconds*Women Cut-off (s):*Height <159 cm >7 secondsHeight >159 cm >6 seconds | Short Physical Performance Battery walking test: Fastest (s) of two times to walk 4 m on average pace. Stratified by sex and height. Calculated from s/4 m to s/15 feet (4.572 m)for adaption to Fried’s criteria: *(s/4m)\*1.143=s/4.572m**Men Cut-off (s):*Height <173 cm >7 secondsHeight >173 cm >6 seconds*Women Cut-off (s):*Height <159 cm >7 secondsHeight >159 cm >6 seconds |
| Grip strength | Measured by Jamar dynamometer (kg), maximal strength of three trials in dominant hand. Stratified by sex and BMI quartiles. Lowest 20% were identified, resulting in the following cut-off for frailty:*Men Cut-off (kg):*BMI <24 <29 kgBMI 24.1**–**26 <30 kgBMI 26.1**–**28 <30 kgBMI >28 <32 kg*Women Cut-off (kg):*BMI <23 <17 kgBMI 23.1**–**26 <17.3 kgBMI 26.1**–**29 <18 kgBMI >29 <21 kg | Measured by Jamar dynamometer (kg), maximal of three trials in each hand (6 measurements). Stratified by sex and BMI quartiles.*Men Cut-off (kg):*BMI <24 <29 kgBMI 24.1**–**26 <30 kgBMI 26.1**–**28 <30 kgBMI >28 <32 kg*Women Cut-off (kg):*BMI <23 <17 kgBMI 23.1**–**26 <17.3 kgBMI 26.1**–**29 <18 kgBMI >29 <21 kg |
| Frailty score | 0 = Not frail/robust1**–**2 = Intermediate/pre-frail>3 = Frail | 0 = Not frail/robust1**–**2 = Intermediate/pre-frail>3 = Frail |
| Pre-frailty/frailty score |  | 0 = Not frail/robust>1 = Pre-frail/frail |

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| **Supplementary Table 2**Follow-up characteristics of men and women by frailty status in Tromsø7 (n=3726) |
|  | **All (n=3726)** |  | **Women (n=1906)** |  | **Men (n=1820)** |
| **Follow-up characteristics** | **Robust****(n=2681)** | **Pre-frail/frail****(n=1045)** | **P**\* |  | **Robust****(n=1343)** | **Pre-frail/****frail****(n=563)** | **P**\* |  | **Robust****(n=1338)** | **Pre-frail/****frail****(n=482)** | **P**\* |
| Attendees, % | 72.0 | 28.0 |  |  | 70.5 | 29.5 |  |  | 73.5 | 26.5 |  |
| Age (years), mean (sd) | 71.9 (4.9) | 73.3 (5.6) | <0.001 |  | 71.6 (4.9) | 73.2 (5.6) | <0.001 |  | 72.1 (4.9) | 73.4 (5.6) | <0.001 |
| Weight (kg), mean (sd) | 77.2 (13.8) | 79.0 (16.3) | 0.001 |  | 70.4 (12) | 73.4 (15) | <0.001 |  | 84.1 (12) | 85.5 (15) | 0.04 |
| Height (cm), mean (sd) | 169 (9.0) | 167 (9.6) | <0.001 |  | 162 (5.9) | 161 (6.6) | <0.001 |  | 176 (6.2) | 175 (6.9) | 0.01 |
| BMI (kg/m2), mean (sd) | 27.0 (3.9) | 28.2 (5.0) | <0.001 |  | 26.7 (4.4) | 28.3 (5.6) | <0.001 |  | 27.3 (3.4) | 28.0 (4.4) | <0.001 |
| Daily smoking, n (%) Currently, n (%) Previously, n (%) Never, n (%) | 2651 (100)215 (8.1)1417 (53.5)1019 (38.4) | 1032 (100)157 (15.2)533 (51.7)342 (33.1) | <0.001 |  | 1324 (100)188 (8.9)632 (47.7)574 (43.4) | 554 (100)85 (15.3)258 (46.6)211 (38.1) | <0.001 |  | 1327 (100)97 (7.3)785 (59.2)445 (33.5) | 478 (100)72 (15.1)275 (57.5)131 (27.4) | <0.001 |
| Married or cohabitation, n (%) | 1958 (76.0) | 726 (73.6) | 0.12 |  | 832 (65.7) | 341 (65.7) | 0.99 |  | 1126 (86.1) | 385 (82.3) | 0.05 |
| Education†, n (%) Primary/partly secondary, n (%) Upper secondary, n (%) Short tertiary, n (%) Short tertiary, n (%) | 2613 (100)973 (37.2)709 (27.1)434 (16.6)497 (19.0) | 1010 (100)477 (47.2)269 (26.6)133 (13.2)131 (13.0) | <0.001 |  | 1309 (100)568 (43.4)332 (25.3)162 (12.4)247 (18.9) | 545 (100)313 (57.4)130 (23.9)41 (7.5)61 (11.2) | <0.001 |  | 1304 (100)405 (31.1)377 (28.9)272 (20.9)250 (19.2) | 465 (100)164 (35.3)139 (29.9)92 (19.8)70 (15.0) | 0.14 |
| Social support‡, n (%) | 2363 (90.9) | 864 (85.4) | <0.001 |  | 1168 (90.3) | 447 (82.8) | <0.001 |  | 1195 (91.5) | 417 (88.4) | 0.04 |
| Good self-perceived health, n (%) | 1868 (70.6) | 460 (44.6) | <0.001 |  | 920 (69.7) | 227 (41.1) | <0.001 |  | 948 (71.4) | 233 (48.6) | <0.001 |
| Physically active, n (%) | 2536 (100)§ | 452 (45.5) | <0.001 |  | 1249 (100)§ | 245 (47.1) | <0.001 |  | 1287 (100)§ | 207 (43.7) | <0.001 |
| High alcohol consumption||, n (%) | 617 (25.4) | 165 (17.6) | <0.001 |  | 360 (29.3) | 90 (17.4) | <0.001 |  | 257 (21.4) | 75 (17.7) | 0.11 |
| Comorbidity, n (%) | 334 (12.6) | 219 (21.2) | <0.001 |  | 126 (9.6) | 89 (16.1) | <0.001 |  | 208 (15.6) | 130 (27.1) | <0.001 |
| Coronary heart disease{, n (%) | 544 (20.8) | 287 (28.3) | <0.001 |  | 175 (13.5) | 114 (21.0) | <0.001 |  | 369 (27.8) | 173 (36.6) | <0.001 |
| Pulmonary disease#, n (%) | 370 (14.2) | 192 (18.9) | <0.001 |  | 203 (15.8) | 113 (20.8) | 0.01 |  | 167 (12.7) | 79 (16.7) | 0.03 |
| Cancer, n (%) | 404 (15.6) | 195 (19.4) | 0.01 |  | 190 (14.8) | 89 (16.7) | 0.31 |  | 214 (16.4) | 106 (22.4) | 0.003 |
| Stroke, n (%) | 129 (5.0) | 74 (7.4) | 0.01 |  | 41 (3.2) | 25 (4.7) | 0.12 |  | 88 (6.8) | 49 (10.5) | 0.01 |
| Diabetes, n (%) | 185 (7.1) | 136 (13.7) | <0.001 |  | 80 (6.2) | 64 (12.0) | <0.001 |  | 105 (8.0) | 72 (15.6) | <0.001 |

sd: standard deviation, BMI: body mass index, MJ: megajoule. N deviates slightly owing to a lack of data on specific variables. \*P-value from Student's t-test for continuous variables and chi-square test for categorical variables between pre-frail/frail and robust women and men. †Primary/secondary school <10 years; upper secondary education (min. 3 years); college/university <4 years; college/university >4 years. ‡Self-reported satisfactory number of good friends. §Included in the frailty criteria; all inactive participants are classified as pre-frail/frail. ||Daily alcohol intake >10 g (women) or >20 g (men). {Angina pectoris, myocardial infarction, heart failure and/or atrial fibrillation. #Asthma and/or chronic bronchitis/emphysema.

**Supplementary Table 3**

Frailty status by age groups in Tromsø7 (n=3726)

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| --- | --- | --- | --- | --- | --- |
|  | **All (n=3726)** |  | **Women (n=1906)** |  | **Men (n=1820)** |
| **Age (years) in Tromsø7** | **Robust****(n=2681)** | **Pre-frail****(n=1009)** | **Frail****(n=36)** | **P\*** |  | **Robust****(n=1343)** | **Pre-frail****(n=537)** | **Frail****(n=26)** |  | **Robust****(n=1338)** | **Pre-frail****(n=472)** | **Frail****(n=10)** |
| 66–69, n=1397† | 1060 (75.7) | 329 (23.6) | 8 (0.6) |  |  | 570 (75.8) | 175 (23.3) | 7 (0.9) |  | 490 (76.0) | 154 (23.9) | 1 (0.2) |
| 70–79, n=1925† | 1381 (71.7) | 521 (27.1) | 23 (1.2) | <0.001 |  | 656 (68.9) | 279 (29.3) | 17 (1.8) |  | 725 (74.5) | 242 (24.9) | 6 (0.6) |
| >80, n=404† | 240 (59.4) | 159 (39.4) | 5 (1.2) |  |  | 117 (57.9) | 83 (41.1) | 2 (1.0)‡ |  | 123 (60.9) | 76 (37.6) | 3 (1.5)‡ |

\*P-value from Fisher’s exact test between age groups and frailty status. †N for men and women combined. ‡No tests performed owing to low n (<5) in cell.

**Supplementary Table 4**

Baseline characteristics of participants in Tromsø4 by Tromsø7 participation status (n=10745)

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|  | **Did not attend Tromsø7****(n=5990)** | **Attended Tromsø7****(n=4755)** | **P**\* |
| Attendees, %† | 55.8 | 44.2 |  |
| Women, n (%) | 2968 (49.6) | 2493 (52.4) | 0.003 |
| Age (years), mean (sd) | 57.3 (7.5) | 51.8 (5.5) | <0.001 |
| Weight (kg), mean (sd) | 74.7 (14) | 74.2 (13) | 0.13 |
| Height (cm), mean (sd) | 169 (9.4) | 170 (9.1) | <0.001 |
| BMI (kg/m2), mean (sd) | 26.1 (4.2) | 25.7 (3.5) | <0.001 |
| Physically active, n (%) | 3396 (56.8) | 3108 (65.4) | <0.001 |
| Comorbidity, n (%) | 425 (7.1) | 105 (2.2) | <0.001 |
| **Daily nutrient intake** |
| Attendees, N (%) | 3304 (50.0) | 3303 (50.0) |  |
| Protein (g), mean (sd) | 78.7 (21) | 77.8 (21) | 0.07 |
| Protein (g/MJ), mean (sd) | 10.2 (1.4) | 10.0 (1.3) | <0.001 |
| Protein (g/kg BW), mean (sd) | 1.07 (0.3) | 1.07 (0.3) | 0.25 |
| Energy (MJ), mean (sd) | 7.8 (2.2) | 7.9 (2.2) | 0.29 |

sd: standard deviation, BMI: body mass index, MJ: megajoule, BW: bodyweight. N deviates slightly owing to a lack of data on specific variables. \*P-value by Student's t-test for continuous variables and chi-square test for categorical variables. †Participated in Tromsø4.

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| **Supplementary Table 5**Odds ratios (OR) and 95% confidence intervals (CI) for daily intakes of protein in Tromsø4 and pre-frailty/frailty adjusted for Tromsø7 protein intake (n=1908) |
| **Dietary exposure** | **Model 6 (n=1902)** |  | **Model 7 (n=1881)** |
|  | **OR** | **95% CI** | **P** |  | **OR** | **95% CI** | **P** |
| Daily intake Tromsø4 |  |  |  |  |
|  Protein, g/MJ | 1.01 | 0.93;1.10 | 0.86 |  | 1.01 | 0.93;1.11 | 0.75 |
|  Protein, g/kg BW | 0.52 | 0.33;.082 | 0.005 |  | 0.61 | 0.39;0.95 | 0.03 |

MJ: megajoule, BW: bodyweight. OR and 95% CI from logistic regression analyses. Analyses performed in participants included in tracking analyses, i.e. with data on estimated protein intake from both Tromsø4 and Tromsø7. Model 6: Adjusted for Tromsø4 age, sex, smoking, education level and body mass index (not for analysis including protein in g/kg BW) plus Tromsø7 protein intake. Model 7: Adjusted for age, sex and Tromsø7 smoking status, comorbidity and body mass index (not for analysis including protein in g/kg BW) plus Tromsø7 protein intake.

**Supplementary Table 6**

Odds ratios (OR) and 95% confidence intervals (CI) for daily intakes of protein in Tromsø4, and Tromsø7, tracking of protein intake from Tromsø4 to Tromsø7, and pre-frailty/frailty in Tromsø7 in participants with different levels of imputed frailty data\* (n=3726)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Dietary exposure** | **25% imputation**† |  | **50% imputation**† | **75% imputation**† |  | **100% imputation**† |  |
|  | **OR** | **95% CI** | **P** |  | **OR** | **95% CI** | **P** | **OR** | **95% CI** | **P** |  | **OR** | **95% CI** | **P** |  |
| Daily intake Tromsø4, n=3089‡ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Protein, g/MJ | 1.02 | 0.96;1.08 | 0.58 |  | 1.01 | 0.95;1.07 | 0.79 | 1.01 | 0.96;1.07 | 0.67 |  | 1.00 | 0.95;1.06 | 0.99 |  |
|  Protein, g/kg BW | 0.46 | 0.35;0.62 | <0.001 |  | 0.52 | 0.40;0.70 | <0.001 | 0.61 | 0.46;0.81 | <0.001 |  | 0.75 | 0.57;0.99 | 0.04 |  |
| Daily intake Tromsø7, n=2507‡ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Protein, g/MJ | 0.95 | 0.90;1.01 | 0.10 |  | 0.95 | 0.89;1.00 | 0.06 | 0.95 | 0.90;1.01 | 0.08 |  | 0.95 | 0.90;1.01 | 0.08 |  |
|  Protein, g/kg BW | 0.65 | 0.53;0.79 | <0.001 |  | 0.66 | 0.54;0.80 | <0.001 | 0.65 | 0.53;0.78 | <0.001 |  | 0.65 | 0.53;0.78 | <0.001 |  |
| Tracking of protein intake from Tromsø4 to Tromsø7, n=1908‡ |  |
|  Protein, g/MJ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Stable high | 1.00 |  |  |  | 1.00 |  |  | 1.00 |  |  |  | 1.00 |  |  |  |
|  Stable low§ | 0.87 | 0.63;1.20 | 0.40 |  | 0.96 | 0.70;1.30 | 0.77 | 0.98 | 0.72;1.32 | 0.88 |  | 0.98 | 0.72;1.32 | 0.88 |  |
|  Decrease | 0.93 | 0.68;1.28 | 0.66 |  | 0.93 | 0.68;1.25 | 0.62 | 0.94 | 0.70;1.26 | 0.66 |  | 0.94 | 0.70;1.26 | 0.66 |  |
|  Increase | 0.89 | 0.65;1.22 | 0.47 |  | 0.87 | 0.65;1.18 | 0.38 | 0.90 | 0.67;1.21 | 0.48 |  | 0.90 | 0.67;1.21 | 0.48 |  |
|  Protein, g/kg BW |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Stable high | 1.00 |  |  |  | 1.00 |  |  | 1.00 |  |  |  | 1.00 |  |  |  |
|  Stable low§ | 1.86 | 1.35;2.58 | <0.001 |  | 1.81 | 1.33;2.47 | <0.001 | 1.75 | 1.31;2.35 | <0.001 |  | 1.75 | 1.31;2.35 | <0.001 |  |
|  Decrease | 1.64 | 1.18;2-27 | 0.003 |  | 1.55 | 1.14;2.11 | 0.006 | 1.40 | 1.04;1.87 | 0.03 |  | 1.40 | 1.04;1.87 | 0.03 |  |
|  Increase | 1.58 | 1.13;2.21 | 0.007 |  | 1.48 | 1.08;2.03 | 0.014 | 1.32 | 0.98;1-78 | 0.07 |  | 1.32 | 0.98;1.78 | 0.07 |  |

MJ: megajoule, BW: bodyweight. OR and 95% CI from logistic regression analyses. \*Frailty was imputed for individual frailty items in robust participants with missing frailty data (n=910). †Robust participants with missing frailty data: 25% (n=228), 50% (n=455), 75% (n=683), 100% (n=910). ‡Analytical sample for Model. §Low and medium tertiles. Model 2: Adjusted for baseline age, sex, smoking, education level and body mass index (not for analyses including protein in g/kg BW).

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| **Supplementary Table 7** Odds ratios (OR) and 95% confidence intervals (CI) for daily intakes of protein in Tromsø4, and Tromsø7, tracking patterns of protein intake from Tromsø4-Tromsø7, and frailty score >2 in Tromsø7 (n=2857) |
| **Dietary exposure** | **Model 1** |  | **Model 2**\* |
|  | **OR** | **95% CI** | **P** |  | **OR** | **95% CI** | **P** |
| Daily intake Tromsø4, n=2371† |  |  |  |  |  |  |  |
|  Protein, 10 g/MJ | 1.00 | 0.88;1.14 | 0.95 |  | 0.92 | 0.80;1.05 | 0.21 |
|  Protein, g/kg BW | 0.23 | 0.12;0.47 | <0.001 |  | 0.26 | 0.13;0.53 | <0.001 |
| Daily intake Tromsø7, n=1939† |  |  |  |  |  |  |  |
|  Protein, 10 g/MJ | 1.06 | 0.92;1.21 | 0.45 |  | 0.96 | 0.83;1.11 | 0.61 |
|  Protein, g/kg BW | 0.56 | 0.33;0.92 | 0.02 |  | 0.51 | 0.31;0.85 | 0.009 |
| Tracking of protein intake from Tromsø4 to Tromsø7, n=1482† |
|  Protein, g/MJ |  |  |  |  |  |  |  |
|  Stable high | 1.00 |  |  |  | 1.00 |  |  |
|  Stable low‡ | 0.86 | 0.41;1.79 | 0.68 |  | 1.44 | 0.65;3.18 | 0.37 |
|  Decrease | 0.89 | 0.43;1.85 | 0.76 |  | 1.19 | 0.55;2.58 | 0.66 |
|  Increase | 0.97 | 0.47;2.01 | 0.94 |  | 1.42 | 0.65;3.08 | 0.38 |
|  Protein, g/kg BW |  |  |  |  |  |  |  |
|  Stable high | 1.00 |  |  |  | 1.00 |  |  |
|  Stable low‡ | 2.21 | 1.02;4.80 | 0.04 |  | 2.51 | 1.14;5.51 | 0.02 |
|  Decrease | 1.49 | 0.67;3.34 | 0.33 |  | 1.68 | 0.74;3.81 | 0.22 |
|  Increase | 1.82 | 0.82;4.05 | 0.14 |  | 1.82 | 0.80;4.10 | 0.15 |

MJ: megajoule, BW: bodyweight. OR and 95% CI from logistic regression analyses. Analyses performed in participants with frailty scores 0, 2, 3. \*N deviates slightly owing to a lack of data on specific variables. †Analytical sample for Model. ‡Low and medium tertiles. Model 1: Adjusted for baseline age. Model 2: Adjusted for baseline age, sex, smoking, education level and body mass index (not for analyses including protein in g/kg BW).

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| **Supplementary Table 8**Odds ratios (OR) and 95% confidence intervals (CI) for daily intakes of protein in Tromsø4, and Tromsø7, tracking patterns of protein intake from Tromsø4 to Tromsø7, and low grip strength in Tromsø7 (n=2774) |
| **Dietary exposure** | **Model 1** |  | **Model 2\*** |
|  | **OR** | **95% CI** | **P** |  | **OR** | **95% CI** | **P** |
| Daily intake Tromsø4 , n=2258† |  |  |  |  |  |  |
|  Protein, gMJ | 1.06 | 0.93;1.20 | 0.37 |  | 0.99 | 0.87;1.14 | 0.88 |
|  Protein, g/kg BW | 0.58 | 0.30;1.13 | 0.11 |  | 0.74 | 0.37;1.47 | 0.37 |
| Daily intake Tromsø7, n=1995† |  |  |  |  |  |  |
|  Protein, gMJ | 1.09 | 0.96;1.24 | 0.19 |  | 1.04 | 0.91;1.18 | 0.58 |
|  Protein, g/kg BW | 0.48 | 0.30;0.79 | 0.004 |  | 0.45 | 0.28;0.73 | 0.001 |
| Tracking of protein intake from Tromsø4 to Tromsø7, n=1507† |
|  Protein, gMJ |  |  |  |  |  |  |  |
|  Stable high | 1.00 |  |  |  | 1.00 |  |  |
|  Stable low‡ | 0.95 | 0.47;1.94 | 0.89 |  | 1.19 | 0.57;2.47 | 0.65 |
|  Decrease | 0.83 | 0.41;1.69 | 0.61 |  | 0.84 | 0.40;1.74 | 0.64 |
|  Increase | 1.05 | 0.53;2.09 | 0.89 |  | 1.25 | 0.62;2.53 | 0.53 |
|  Protein, g/kg BW |  |  |  |  |  |  |  |
|  Stable high | 1.00 |  |  |  | 1.00 |  |  |
|  Stable low‡ | 1.54 | 0.66;3.59 | 0.31 |  | 1.58 | 0.67;3.72 | 0.29 |
|  Decrease | 2.25 | 1.01;4.98 | 0.05 |  | 2.74 | 1.22;6.17 | 0.02 |
|  Increase | 1.96 | 0.86;4.42 | 0.11 |  | 1.82 | 0.79;4.19 | 0.16 |

MJ: megajoule, BW: bodyweight. OR and 95% CI from logistic regression analyses. \*N deviates slightly owing to a lack of data on specific variables. †Analytical sample for Model. ‡Low and medium tertiles. Model 1: Adjusted for baseline age. Model 2: Adjusted for baseline age, sex, smoking, education level and body mass index (not for analyses including protein in g/kg BW).